

CLAYTONIA

Newsletter of the Arkansas Native Plant Society

Vol. 28 No. 1

Spring/ Summer 2008

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Prairie Habitat Recovery

By Danny Barron

A prairie is defined as a grassland habitat with a wide variety of plant life, which in turn provides cover and food for a wide variety of animal life. Prairies come in a variety of types, ranging from wet, mesic (seasonally wet), and dry. The rainfall amount affects the type of vegetation cover—from tallgrass to mixed and shortgrass prairies. Mesic tallgrass prairies are typically the most diverse and productive. Tallgrass prairie is very consistent biologically across the continent—you will find purple coneflowers



*Tall gayfeather (*Liatris pycnostachya*) in a restored prairie. Photo by Danny Barron.*

growing natively from New York to Oklahoma and Nebraska. In the start of this article, let us concentrate on grasses, for they truly are the backbone of the prairie. Most prairie plants (but not all) are “warm season” and are dormant from late fall through mid-spring. This is probably an adaptation to the seasonal burning of the prairie when the grasses are dry (late summer to early spring).

Akin to prairie is savannah, which is mixed grassland with copses of trees and/or shrubbery intermixed. Prairies are typically maintained as grassland by the force of fire. The fires that formed the North American prairies were partially set by late season lightning and partially by Native Americans intentionally setting fire to maintain the habitat. If prairies are denied this cleansing fire, they typically progress through savannah and scrub to forest, if soil depth and moisture permit.

More than ¼ of the North American continent was prairie at the time the first white settlers gazed upon the land. That amount has dwindled to less than 1% of the original total. The land has been utilized for agriculture, typically production of cereal monocultures, and the remaining uncultivated segments have mostly evolved into scrub and forest as man has controlled the fires that historically progressed through the prairie every few years. The isolated remnants of prairie are proving insufficient to maintain biodiversity and habitat for animals that are adapted to them.

I write this article as I'm into my eighth year of prairie recovery myself. My site gives me mesic tallgrass and a drier mixed grass/savannah area in which to attempt to reintroduce different species. Conventional wisdom advocates clearing the land of competitive species (such as invasive turf grasses like bermuda-grass, fescue, and bluegrass). Methods suggested depend upon the species being removed. For "cool season" grasses like fescue and bluegrass, control may be attainable by burning the area repetitively (over a couple of years) right as the grasses are in flower and have the lowest energy reserves of any point in their yearly cycle. Fire can also be used to control most woody trees and shrubs. For Bermuda, soil fumigation is a possible recommended control.

If you seed your prairie, it is recommended that you do minimal disturbance of the soil. Not only does tilling encourage erosion, but you expose a new weed crop to the light, and you will get a weed crop. Care for young plants by roguing any aggressive weeds that might shade them...but be sure of what you're roguing. Perennial prairie plants (both grasses and forbs) tend to grow slowly and it may be a few years before you see what the mature plant looks like. It will have been spending its energy producing a very extensive root system. Some grasses and forbs can penetrate more than 10 feet into the soil as they get established.

If you do as I did and plug forb transplants into your prairie, you might want to put a bit of biodegradable mulch (lawn clipping are good, newspaper is possible) in the immediate vicinity of your transplant to prevent weed germination and conserve moisture. Ideally, plug the plants in during a period when you have mostly dependable rainfall. This will lower the amount of care you must give them till they get "settled in" and can care for themselves. You must decide when is best for your climate and the needs of a particular plant. I try to plant in early spring (March if possible) to accommodate the most rainfall for my area (April-June). In most cases, if I plant a small potted plant in March, it's ready to take care of itself by the time the ground is drying in July, though I may keep a weekly eye on it in the event that I might have to intervene if no rains occur for more than a month at a time. After the first year, the plants are on their own to thrive or fail as natural forces dictate. In the end, what I want is a self sustaining habitat that provides a full growing season of interest for me, and habitat and food sources for the wildlife of my area.

Periodic burning as biomass accumulates will renew a prairie and will probably be the only maintenance an established prairie needs. Often every 3-4 years is adequate, though as I'm doing weed control by burning, I've tried to burn every other year. If your site is large enough to accommodate it, burn portions of the grassland in alternate years. Some insects will overwinter (like butterflies in cocoons) and will not survive being burned. In my own recovery, due to it being a tallgrass prairie and to Bermuda being shade intolerant, I opted for no control... and simply allow the taller grasses to shade the Bermuda out. I'm not certain but I believe it is working. The Bermuda is definitely on the recession and the tall grasses are on the increase. Forbs (non-woody wildflowers) are also on the increase. I have researched appropriate plants for my area and generally tried to collect seeds of them in my local area (10 mile

radius or so). Many prairie plants still occur along roadsides and railroad rights-of-way. Where necessary, I have collected or purchased plants that originated within 200 miles from me. When propagation is difficult but the plant occurs locally (like lead plant, *Amorpha canescens*, and compass plant, *Silphium laciniatum*), I've resorted to buying 1-2 plants from commercial sources, planted them in habitat, and waited for nature to take her course. Tall gayfeather (*Liatris pycnostachya*), Indian blanket (*Gaillardia pulchella*), spotted wood mint (*Monarda fistulosa*), texas obedient plant (*Physostegia angustifolia*), purple coneflower (*Echinacea purpurea*) and pale purple coneflower (*Echinacea pallida*) have happily reseeded themselves into spots and drifts and in a few cases, masses.

Some prairie plants spread vegetatively and have taken over fairly large districts by cloning. These include spotted wood mint, prairie phlox (*Phlox pilosa*), sunflowers (*H. grosseserratus*, *H. salicifolius**, *H. occidentalis*, and *H. maximilianii*), prickly pear cactus (*Opuntia humifusa*), and Michigan lily (*Lilium michiganense*).

Some of the best surprises though have been what was either in the seedbank on my site or has been deposited by wildlife or the winds. I have a number of tube-flowered penstemon (*Penstemon tubaeflorus*) which I have never encouraged in any way. A large (after three years) patch of an unidentified sunflower occurred spontaneously. Big bluestem grass (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), prairie cordgrass (*Spartina pectinata*), spiderworts (*Tradescantia* sp.), goldenrods (*Solidago* spp.), asters (*Aster* spp.), prairie rose gentian (*Sabatia campestris*), sensitive plant (*Mimosa quadrivalvis* var. *nuttallii*), black-eyed Susan (*Rudbeckia hirta*), spring beauty (*Claytonia virginica*), blue-eyed grass (*Sisyrinchium* sp.), prairie larkspur (*Delphinium carolinianum* ssp. *virescens*), prairie anemone (*Anemone caroliniana*), native thistles (*Cirsium* sp.), ladies' tresses orchids (*Spiranthes* sp.), and violet wood sorrel (*Oxalis violacea*) all grace the prairie and have never been planted there by the hand of man. Different asters, St John's wort (*Hypericum*



American basket flower (*Centaurea americana*), a self-seeding annual of tallgrass prairies in Arkansas, Oklahoma, and Texas, is a great plant for bees and other native insects. Photo by Danny Barron.

sp.), pussy toes (*Antennaria* sp.), and various goldenrods grace the savannah/short-grass area as well as a smattering of a few of the species that inhabit the pure prairie.

Among the wildlife that I have seen are midland brown snakes, garter snakes, rough green snakes, prairie kingsnakes, northern water snakes (I have a pond that sits on one edge of my property, but the water snakes even seem to live as far as the house), blue-tailed skinks, wood turtles, box terrapins, glass lizards, spadefoot toads, leopard frogs, gray tree frogs, cricket frogs, terrestrial crayfish, and many insect species. Voles, field mice, and rabbits find it makes a good home also. Many bird species feed and rear young in the savannah trees (blue jay, downy woodpecker, red bellied woodpecker, chickadees, titmice, purple finch, doves, various native sparrows, nuthatches and cardinals have been observed rearing young. I usually get a surprise about every year also as I find something new.

The most interesting thing for me though, is to watch the habitat evolve. Some plants, like poppy mallows (*Callirhoe*) and prairie clovers (*Dalea*), have thrived, but I've yet to see any offspring elsewhere in the garden. Some (like the *Liatris*) have made themselves totally at home and now have hundreds, possibly approaching thousands of offspring. Please take some time to cultivate some of our native plants, both for their adaptability to whatever the climate will throw at them, their value to the wildlife, and frankly the exotic beauty that many of them exhibit. Be a wildflower evangelist, convince your neighbor to try some of the natives you're growing.

Please visit <http://www.flickr.com/photos/dbarronoss/collections/72157594587184878/> (if this is too difficult an URL to type, you will be able to find my photos at <http://www.flickr.com/photos/dbarronoss>, though you may have to dig a bit for the Prairie Wildflowers collection) for color photos taken over the past eight years. I have organized them into months, based on what is blooming at a particular month in the prairie. My photographic skills have improved much in the last year, so I apologize for the older photos, but still it gives you an idea of what each plant looks like and what blooming period I have had for that species over the years. Eventually, I'll probably replace them all with photographically worthy (versus documentary worthy) photos.



Purple coneflower (*Echinacea purpurea*), a versatile and easy plant of prairies and woodlands. Photo by Danny Barron.

** This species is native in Oklahoma where my prairie is located, but is not known from Arkansas. It should be looked for in NW Ark!*

ANPS Proceeds with Carl Hunter Memorial Project

The ANPS Board is excited about the generosity of our membership in their donations to the "Carl Hunter Memorial Fund." The response was such that the Board voted to proceed with the procurement and distribution to the Arkansas public libraries of Carl's book "Wildflowers of Arkansas." The general fund will be used to cover the small shortfall. Jean Ann Moles will be helping with the distribution of the copies. Susie Teague is designing a label we will put in the flyleaf of the donated books, identifying ANPS as the donors in memory of Carl. The Board wants to thank the donors, individually, who are:

Brent Baker
 Maury & Barbara Baker
 Christine Beauchamp
 Norma Blanton
 Frank Bowers
 Patricia Brown
 Mike & Peggy Burns
 Bob Byers
 Shannon Chamberlin
 Linda Chambers
 Don & Deborah Culwell
 Sandy Davies
 Cynthia Dusenberry
 Linda Ellis
 Karen & Marvin Fawley
 Pine Ridge Gardens
 Ann Gordon
 Mrs. Thomas Gulley
 Barry Haas
 Donna Hanke
 Susan Hardin
 Katrina Hayes
 Betty Heck
 Catherine Hodges Hamilton Hepinstall
 Burnetta Hinterthuer
 Susan Hooks
 Harriett Jansma
 Arthur & Martha Johnson
 Sterling Lacy
 Cheryl Lavers
 Dan Marsh
 Pope County Master Gardeners
 Jerry L. McGary
 Carolyn Minson
 Jewel Moore
 Mary Bess Mulhollan
 Rodney & Norma Patterson
 Cathy Porter
 Karen Seale
 Bill Shepherd
 Clint & Francis Sowards
 Lori Spencer
 Eric & Milanne Sundell
 Susie Teague
 Mick & Hildie Terry
 Laura Timby
 Staria Vanderpool
 Suzanne Waggoner
 Louise Williams
 Lois Wilson
 Martha Wyre
 Meredith York

Are Orchid Gods Infallible?

By Carl Slaughter, MD



When my orchid interest was first sprouting, I was looking for a lot of answers to a lot of questions. There were not as many books then as there are now. There was one author, Carlyle A. Luer, who had written two books, *The Native Orchids of Florida* and *The Native Orchids of the United States and Canada*. His books became my bible. When things became confusing I would turn to his books or turn to the phone and call him. He soon was my

orchid god. The answer to any of my many questions. Over the years I have added Chuck Sheviak to my “gods list”. I feel that his words are also written in stone.

In the years of my orchid interest the small green wood orchid (*Platanthera clavellata*), the snowy orchid (*P. nivea*), and the yellow fringeless orchid (*P. integra*) have been placed in the genus *Platanthera*. The first of these is presently found in Arkansas. The second, *P. nivea*, has been found in Arkansas in the past (*known only from two specimens collected in Arkansas County in the 1880s from wet prairies long since destroyed – ed.*). In the past three years five orchid books have been published placing them in a different genus, *Gymnadeniopsis*. One of my orchid gods agrees that these orchids should not be included in *Platanthera*. *Gymnadeniopsis* is a word derived from Greek that means “similar to the genus *Gymnadenia*” (orchids that have a naked gland). This means that the viscidia are free or uncovered. Rydberg first described the genus *Gymnadeniopsis* in 1901.

Since first described in 1818, *P. integra* and *P. nivea* have had seven different names. *P. clavellata*, described in 1803, has had fourteen! During this period of time these three orchids have been placed in several different genera, though for the past 20 plus years they have been members of the genus *Platanthera*. All three, at one time or another, have been placed in *Gymnadeniopsis* and *Gymnadenia*, though neither appear as accepted genera in the recent *Flora of North America*.

These three orchids do differ from the other *Platantheras*. *P. nivea* has non-resupinate flowers that have two pair of



The small green wood orchid, Platanthera (or Gymnadeniopsis if you prefer) clavellata [both photos] is not uncommon in forested seeps in Arkansas, where it often grows from mats of Sphagnum moss. Photos by John Pelton.

appendages on the column. *P. clavellata* has a series of forward-directed lateral projections on the column. *P. integra* also has two pair of lateral processes. These processes, plus their tuber-like roots, which are not found in other *Platantheras*, are what investigators feel make these three species belong in a genus other than *Platanthera*. It is interesting the difference a few bumps make!

Are orchid gods infallible? I was going to end by saying I hope not, but I realize that these gods are just a creation of my own fallible human mind. A human characteristic is once you have learned something it is difficult to find that what you have learned is no longer true and there is something else you have to learn. I am repeatedly reminded that there is one thing in this world that is constant and that is change. These changes will go on forever, and I will just have to accept them. I hope you will have less of a problem with this than I do.

To paraphrase a sentence from Robert Frost's *Mending Wall*: Something there is that doesn't love a change (wall),...and I'm a something.

PLANT OF THE ISSUE: ARKANSAS MEADOW RUE



Arkansas meadow rue. Saline County, Arkansas. Photo by Craig Frasier.

Arkansas meadow rue (*Thalictrum arkansanum*) is one of the most delicate members of the buttercup family (Ranunculaceae) in our flora. It is also considered globally rare, known only from parts of Arkansas, Texas, and Oklahoma, and having a global conservation status rank of G2 (imperiled). A true spring ephemeral, it begins growth in the early spring, before the deciduous trees have broken bud, and is long gone by the time many other spring wildflowers begin blooming. If you blink, you'll miss it. It is short in stature, seldom more than 6 or 8 inches tall, and the flowers are not particularly showy. Like other members of the genus it has unisexual flowers and plants are dioecious (individual plants have either all male or all female flowers). The roots are thick and fleshy—surprisingly robust for such a dainty little plant.

Until fairly recently, Arkansas meadow rue was known only from the Gulf Coastal Plain in Arkansas, mostly in the southwestern part of the state. But, somewhat surprisingly, it has now been documented from several sites in the Ouachita Mountains as well. Several years ago, while doing research on the flora of Saline County, I came across a report of a Saline County specimen of Arkansas meadow rue housed at UARK, the herbarium of the University of Arkansas at Fayetteville. Surely, I thought, this was a misidentified specimen of something else. It was unknown to the state Natural Heritage Program and was far north of the known range of the species in the state. But no, a trip to UARK proved that it was indeed what it claimed to be, the first report of the species from the Ouachita Mountains of Arkansas! The specimen was collected by the late Carl Hunter, from a rich wooded terrace of the Alum Fork Saline River, not far from the junction of I-30 and state highway 70. I immediately made plans to visit the area the following March and see if I could relocate the plants.

Months later, after 20 minutes of wandering around the woods along the Alum Fork with no luck, I found three small plants near the base of a steep hillside. Then, after a bit of bushwhacking, I came up a little rise onto a rich, flat river terrace to see the ground literally covered with them. Associated plants included bloodroot (*Sanguinaria canadensis*), purple trillium (*Trillium recurvatum*), white trout lily (*Erythronium albidum*), yellow trout lily (*E. rostratum*), sessile bellwort (*Uvularia sessilifolia*), hairy buttercup (*Ranunculus hispidus*), rue anemone (*Thalictrum thalictroides*), and other common species of rich wooded stream terraces in the Ouachitas.

Since then, single sites have turned up on both the South Fork and North Fork of the Saline River, in Garland and Saline Counties, respectively. Then, over lunch one day in late 2006, Donna Gardner, horticulturalist with the Arkansas Highway Department, casually mentioned that she should show me the population of Arkansas meadow rue she found along Fourche Creek behind the Highway Department greenhouse—in Little Rock! I almost fell out of my seat! Sure enough, in March of 2007 she showed me hundreds of plants along the stream terrace, within sight of I-430. Also along on the trip was Brent Kelley of Audubon Arkansas, who was about to start documenting the flora of “Fourche Bottoms”, a couple of thousand acres of City-owned forest and wetlands along Fourche Creek on the south side of town. As I hoped (and suspected), I got a call from Brent a few days later saying that he and others had found many more plants on city land upstream. It is always encouraging that even in a place as heavily populated and well-explored as Little Rock, there are still remarkable discoveries to be made in the 21st century.

—Theo Witsell



Detail showing the staminate (male) flowers of the Arkansas meadow rue. Saline County, Arkansas. Photo by Craig Frasier.

If you think you have found a site for Arkansas meadow rue, or any other species of conservation concern, please contact the editor or the Arkansas Natural Heritage Commission.

FALL 2007 ANPS GENERAL MEETING MINUTES

**Econo Lodge Conference Center
Hot Springs National Park, Arkansas
October 13, 2007**

President Brent Baker called meeting to order at 8:19 PM.

Brent Baker thanked Linda Chambers for organizing the meeting. He also thanked Eric Sundell for the presentation he gave.

Brent Baker asked everyone if they had read the minutes printed in the current *Claytonia* and asked they be approved. Karen Seale made motion to approve the minutes, Maury Baker seconded and everyone approved.

Jerry McGary explained the Treasurer's Report. He also reported \$4,520.00 ANPS had raised toward the Carl Hunter Memorial which includes the matching funds of \$1,000.00 Maury and Barbara Baker donated. \$6,000.00 is needed to complete this Memorial and the remainder will come from the General Operating Fund. Jerry thanked everyone for their donations and explained that the Carl Hunter Memorial consist of placing "Wild Flowers of Arkansas" by Carl Hunter in every Public Library in the State. Martha Wyre made motion to accept, Mary Ann King seconded and all approved.

Membership Chair Maury Baker reported 358 memberships and 432 members, of which 97 are life members. Maury also stated the new brochures have helped with new memberships. He also suggested giving memberships as gifts.

Brent Baker reported that it was time for election of new officers. He explained that Kerri McCabe would not be able to accept nomination for Vice-President and that Jean Ann Moles had accepted the nomination.

Secretary/Historian: Susie Teague

Membership Chair: Maury Baker

Scholarship/Awards Chair: Burnetta Hinterthuer

Vice President: Jean Ann Moles

John Simpson made motion to accept the nominations, Mary Ann King seconded and all were in favor.

Brent Baker explained our progress with the 501(c)(3). Jerry McGary is filling out forms and filing all information necessary for the application.

Brent announced ANPS Spring 2008 Meeting is a joint meeting with the Missouri Native Plant Society and is tentatively set for the first week in April. Details will post at a later date.

Brent Baker requested volunteers for cleaning the Carl Hunter Wildflower section at Wildwood for the Performing Arts in

Little Rock. Volunteers are needed for cleaning and labeling plants. Anyone interested in volunteering should contact Linda Chambers.

The deadline for articles for the *Claytonia* is January 15, 2008. Contact Theo Witsell if you have any new articles or events. The *Claytonia* will be mailed later in January.

Brent Baker presented the new T-shirt design and new logo.

Linda Chambers made motion to adjourn, Burnetta Hinterthuer seconded and everyone agreed.

Respectfully Submitted,
Susie Teague

NEW MEMBERS

The following new members have joined the ANPS since the last issue of *Claytonia*, from August 2007 to January 2008:

New Members

Leif Anderson (Hector, AR)
Barbara Boland (Fayetteville, AR)
Martha Bowden (Maumelle, AR)
Dennis & Patricia Braddy (Little Rock, AR)
Jeff Butler (Hot Springs, AR)
David & Sheila England (Jonesboro, AR)
Rosemary Hany (Hot Springs Village, AR)
Don & Vicki Higgins (Morrilton, AR)
Mary Hughes (Chester, AR)
David Johnson (Delaware, OH)
David & Terri Luneau (Little Rock, AR)
P. J. Mattus (Little Rock, AR)
Carey Minter (Springdale, AR)
Ann & Rick Owen (Little Rock, AR)
Kitty Roberts (Springfield, MO)
Kilian Roeber (Phoenix, AZ)
Robin Scott (Conway, AR)
Rosemary Scott (Conway, AR)
Jack Singleton (North Little Rock, AR)
Mary Smith (Bryant, AR)
Avil Snow (Heber Springs, AR)
Barry L. Snow (Little Rock, AR)
Jeremy Whisenhunt (Springdale, AR)
G. W. & Lydia Willis (Doyline, LA)
Kathy Vaughn (Jasper, AR)
George Yatskievych (St. Louis, MO)

New Life Members

Brent Baker (Dardanelle, AR)
Molly Jones (Conway, AR)
Suzanne Waggoner (Mt. Vernon, AR)

We welcome these new members to the ANPS and hope to see them at the Spring Meeting!

OZARK CHAPTER NEWS

The Ozark Chapter of the Arkansas Native Plant Society held its annual fall meeting on November 2-4th in Jasper, Arkansas. We hiked the Pruitt to Ozarks Campground Trail on Saturday morning, then shared a potluck dinner followed by the plant auction. During the business meeting, we elected Brent Baker as President and Laura Villejas as Vice-President with Mary Reuter agreeing to stay on as society Treasurer. Burnetta Hinterthuer accepted the Secretary/Newsletter position. It is exciting to have new leadership in OCANPS and we are looking forward to the New Year. At the auction, we raised over \$200. We also voted to continue donating money to the Arkansas Envirothon, Arkansas Flora Project and the Edith Halberg Ecology Camp (Aubudon Society). In addition, we decided to make a deposit on Harmony Mountain Lodge, south of Jasper, for the next year's annual meeting. This lodge will easily sleep 24 people comfortably. Attending the meeting were Mary Ann King, Gene Ford, Vernon Human, Virginia Harrington, Brent Baker, Laura Villejas, Steve Holst, Burnetta Hinterthuer, Margot Lavoie, Tom Lavoie, Ginny Masullo, Jim Dudley, Amy Wilson, Matt Gerhart, Cat Donnelly and Ronnie Stephens.

Submitted by Burnetta Hinterthuer

Ouachita National Forest Preparing Off-Highway Vehicle Management Plan, Seeking Public Comment

The Ouachita National Forest is proposing to designate a system of roads and trails for public use of motorized vehicles, including Off-Highway Vehicles (OHVs) and, at the same time, limit motorized vehicles for the most part to those designated roads and trails (cross-country travel would be highly restricted). This proposal, known as the Travel Management Project, would be implemented throughout the Ouachita National Forest. A detailed proposed action will be released for public comment in January 2008* and the public will be invited to provide input regarding any additional environmental issues associated with implementation of this project or alternative ways to meet Forest plan objectives and desired conditions and comply with the Travel Management Rule.

In addition to road and trail use designations being proposed, the proposal includes limited use of motor vehicles for big

game retrieval and dispersed camping. OHV use (3-wheelers, 4-wheelers, and UTVs such as "gators," "mules," "rangers," etc.) would be allowed off designated routes (forest floor travel) for retrieval of legally killed black bear and white-tailed deer under the following circumstances:

- During October and November (during state-specified black bear and white-tailed deer seasons) and
- Vehicle operator/hunter must have in possession a valid hunting license and tagged, downed deer or bear (animal must be on vehicle when observed by law enforcement officer/wildlife officer or hunter must take officer to animal) and
- Within ½ mile of one or both sides of certain routes designated open for any vehicle use. Places where bear/deer retrieval would not be available on one or both sides of certain routes include:
 - Wilderness, most of MA 20 (wild and scenic river corridors), most walk-in turkey areas, parts of MA 19 in Oklahoma (botanical areas, scenic areas), Research Natural Areas, other botanical areas or special habitats, within 100 feet of streams and riparian areas, and steep slopes
- Stream crossing allowed only by travel on road(s) or trail(s) designated open

Motorized vehicle use would be allowed to access dispersed camping sites under the following circumstances:

- Dispersed camping sites at designated locations (as signed and/or indicated on a Motor Vehicle Use Map—MVUM—in force at the time)
- Within 300 feet of certain designated routes (as indicated on an MVUM in force at the time)

In addition, vehicles would be able to park legally up to one vehicle length from the edge of all roads designated for motorized use and where National Forest System lands abut county, state, or other road jurisdictions.

Maps will be posted on the Ouachita National Forest website at www.fs.fed.us/r8/ouachita and the formal comment period will last 30 days. Commenting during this formal notice and comment period will afford you standing to appeal the subsequent project decision(s), should you desire. The final project decision for the initial MVUMs is expected on or about June 6, 2008.

* A letter on the Forest Service website gave this timeline but as of Feb 4, 2008, when the Claytonia went to press, the proposal had not been released on the website. If you are interested in commenting on the proposal, check the website regularly because the comment period will only last 30 days.

FIELD TRIP REPORTS

Fall 2007 Field Trips, Hot Springs & vicinity: Charlton Recreation Area, Trapp Mountain Preserve, and Meyers Creek

By Eric Sundell

We had sunny skies and cool temperatures! And after the ANPS fall meeting was over, a dreary, rainy Monday made the Saturday and Sunday field trips seem even sweeter.

Susan Hooks and Burnetta Hinterthuer led the Saturday morning trip out of Charlton Recreation Area west of Hot Springs, and Barbara Baker kept her pencil going all the way out and back, recording a long list of plants—58 to be exact—that included a nose burn (*Tragia cordata*), a senna with an impressive cluster of dark pods at the top (probably *Senna marilandica*), and a large mat of partridge berry full of two-eyed fruits. The group picked up two orphans from Theo Witsell and Susie Teague's trip to Dripping Springs: Bill Shepherd and Fred Greenwood mistook Maury Baker for Theo, got into the wrong caravan at the motel, and followed Maury's vehicle all the way to Charlton. Maury wasn't at all surprised because except for a few years and some facial hair, he and Theo look remarkably similar, especially compared to two members of any other life form.



Hazelnut (Corylus americana), a common species of our mountains, showing the wind pollinated flowers typical of the birch family. Female flowers [above] are emerge from buds along the branches while male flowers are borne in long hanging catkins [at right]. Photos by John Pelton.

The trail followed a wooded terrace above Walnut Creek where asters and goldenrods—especially lovely bluestem goldenrods—were plentiful and colorful. Hazelnuts with lots of festive spring pollen catkins often lined the path, but we found no bushes with nuts—presumably the effect of the Easter freeze. The trail was

well above the creek, however seepage from the slope above kept the ground soggy, and the woods were a rich, interesting mix of upland trees and streamside shrubs. Buttonbush and tag alder, competing for light in the understory, were arborescent—one buttonbush was estimated to be about 20 ft high and an alder beside it 15 feet. Some of the ferns were also robust: a fertile grape fern stood at least a foot tall, and Fred Greenwood came down the slope and reported a seep with royal ferns shoulder high.

One of the highlights of the walk was an abundance of Indian pipe (*Monotropa uniflora*), one of the real eccentrics among flowering plants of the temperate zone. Indian pipes are ghostly plants with clusters of waxy white six inch stems, white flowers, and even white leaves. They emerge in the fall—when most plants are shutting down—from a knotty underground root ball. They have no chlorophyll and make a living by parasitizing hard-working soil fungi, extracting their food and even their water and minerals from fungi captured and entangled in their roots. At least some of those fungi are involved with the roots of forest trees in another association—a mutualistic one—called a mycorrhiza (“fungus root”): the fungi supply the trees with minerals while the trees pass carbohydrates to the fungi. Practitioners of the Indian pipe lifestyle are known to botanists as mycotrophs (“fungus feeders”). (No, you cannot qualify for mycotroph status by just eating a mushroom pizza.) In effect, Indian pipes make a living siphoning resources from surrounding trees through the filaments of the trees' mycorrhizal fungi! So, if they can find food underground, why the cameo appearance into the light every fall? It's that old black magic: the birds and the bees! Indian pipes are true flowering plants (closely related to rhododendrons, in fact), and they reproduce by using insects as cross-pollinators. Bumblebees are attracted to the flowers; seeds are set and dispersed; necessity met, plants soon blacken and die back to the roots like the herbaceous perennials they are. It is probably not our idea of an inspired life—ten or eleven months in the dark every year!—but the bizarre adaptation apparently works just fine. A second, less common species of *Monotropa*, pinesap (*M. hypopithys*), emerges a bit earlier with more of a coral pink coloring to the stems and even the flowers. Both species occur in forests across North America and in the Old World as well. The unrelated coral root orchids (*Corallorhiza*) are also devoid of chlorophyll and share the same mycotrophic nutrition as *Monotropa*. Like flight—in bats and birds, for example—mycotrophy has evolved more than once.

The afternoon trip to Trapp Mountain, a Nature Conservancy preserve, was led by John Simpson at the head and Eric Sundell at the tail of a long, winding group. Theo Witsell found Texas ironweed, *Vernonia texana*, a common Coastal Plain species uncommon in the Ouachita Mountains—an elegant ironweed with the same spectacular purple flower heads as the tall roadside species. John Simpson pointed out an unknown fern that Don Crank later identified as an escaped Asian species, autumn fern,

FIELD TRIP REPORTS



Indian pipe (*Monotropa uniflora*), a remarkable plant with no chlorophyll, makes its living by parasitizing hard-working soil fungi. Photo by John Pelton.

Dryopteris erythrosora. (On a return trip, Jim Peck confirmed the ID and has since confirmed that the discovery is a first for the species growing outside of cultivation in North America.) John took us along a wooded slope under oaks, hickories, and bright red black gums to the foot of a beautiful rock bluff. Black oaks were especially grand, and having a bumper crop of acorns—which surprised some folks who expected to find little mast production after the Easter freeze. Black oak and other species of red oaks—those with bristle-tipped leaf lobes—require two years to develop mature fruit after flower pollination; white oaks need only a single growing season. Where frost was severe, white oak, post oak, chinkapin oak, and others will bear poorly this fall, while the red oaks—northern and southern red oak, black oak, blackjack oak, Shumard oak—will have their shortfall next year. On the slope below the bluff were numerous witch hazels loaded with flower buds, on schedule to bloom in November and provide the last color of the season. It was up the slope from here that A. J. Higginbottom found a few Ozark chinkapins and brought a branch down for the group to admire.

On Sunday morning, Don Crank led a few diehards to Meyers Creek: Brent Baker, Barbara and Maury Baker, Peggy and Mike Burns, Sandra and Bob Gamble, Donna and Bruno Hanke, and Milanne and Eric Sundell. Don brought along an extra pair of rubber boots to keep us dry fording the creek: we lined up on the bank, then Don would help a maiden or a man in distress to cross, then bring back the boots, help the next person, and so forth. (I nominate Don for the Most Valuable Field Trip Leader award!) The creek was lined with a rich diversity of hardwood trees, large specimens of chinkapin oak, white oak, bitternut hickory, white elm, white ash, and basswood. Along with hollies and hornbeams (muscle wood) in the understory, umbrella magnolias with their one to two foot leaves were

common everywhere. (Standing under a fully unfurled umbrella magnolia surrounded by waist-high ferns must be like starring in a Gauguin Tahitian canvas.) Several large red mulberries were scattered in the woods—all of them relatively free from the dieback that seems to plague them in southern Arkansas. Slippery elms grew on higher ground and, unlike the white or American elms along the creek, had sandpaper-rough (rather than smooth) canopy leaves and slick-tasting (rather than merely bitter) inner bark. I've been told that during flu season you can buy medicinal slippery elm lozenges at Cracker Barrel!

Along the creek and above on the seepage slope, the ground was thick with ferns: Christmas fern and southern lady fern everywhere, cinnamon and royal ferns, sensitive and netted chain ferns, the uncommon New York and Dixie ferns, and several others. The beautiful fertile fronds and pinnae of the two *Osmunda* species—cinnamon and royal fern—appear in spring and were long gone. But we were treated to the intriguing fertile fronds of both sensitive and netted chain ferns—these appear in fall after the sterile, photosynthetic fronds have worked all summer making sugar and sending it for storage to the rhizomes. Don Crank told us about Dixie fern, *Dryopteris Xaustralis*, one of the *Dryopteris* natural hybrids. It's a cross between two species of log fern, *D. ludoviciana* and *D. celsa*. Chromosome studies exposed Dixie's convoluted parentage, a titillating story of promiscuity that includes one parent, *D. celsa*, which is itself of hybrid origin. (The spore doesn't fall far from the frond?) Meyers Creek is a rich and fascinating site.

What a perfect weekend for field trips! Thanks to Linda Chambers and Brent Baker and to the many trip leaders for an excellent fall meeting.



Sensitive fern (*Onoclea sensibilis*) occupies very wet sites along streams, in swamps, along backwater sloughs, and—in the mountains—in very wet wooded seeps. It is often confused with netted chain fern (*Woodwardia areolata*), also a common species in seeps. Photo by John Pelton.

BYLAWS AMENDMENTS

At the October Board meeting the Chairman of The Scholarships and Awards Committee asked if a change could be made to the governing documents regarding the allocation of donations to the various Scholarship, Grant, and Award funds. The introductory document to the Bylaws (pages 28 and 29 of the Directory) is where the allocations are prescribed. The Board agrees that the current allocations result in an imbalance of the funds relative to their need in terms of awards. To simplify the process and allow more flexibility to the Scholarships and Awards Committee, the membership will be asked to approve the following changes. The deleted words are underlined, the added words are in **bold type**.

ARKANSAS NATIVE PLANT SOCIETY

The Arkansas Native Plant Society was formally organized September 20, 1980, in Mena with the adoption of bylaws specifying conferral of membership upon receipt of membership dues. There are seven membership categories: Student (\$10), Regular (\$15), Supporting (\$20), Family (\$25), Contributing (\$30), Lifetime Membership (age 55 and over \$150), Lifetime Membership (Under age 55 \$300). Ten dollars of the Student Membership and fifteen dollars of each of the other memberships are used for operating expenses of the Society. The Supporting Membership \$5 excess, will be applied to the Dwight Moore Award fund. **The** excess of the Contributing **Membership**, and Life Membership dues will be applied to the Delzie Demaree Research Grant Society Memorial Funds.

ANPS has two general meetings each year, in spring and fall, at different localities around Arkansas. Field trips to areas of unusual botanical interest are also scheduled throughout the year. The newsletter, *Claytonia*, is issued quarterly, and a directory of members is published every year in the summer.

SOCIETY MEMORIAL FUNDS

ANPS has established and supports several awards, and scholarships, **and grants** for students of the Arkansas flora. **Funding for the Awards, Scholarships, and Grants is provided through the Supporting, Contributing, and Life Memberships, gifts, the annual auction, and other activities designated as such. The Scholarships and Awards Committee administers the fund.**

DWIGHT MOORE AWARD

This award honors Dwight Munson Moore, long-time Arkansas botanist; Professor of Botany for more than 40 years at the University of Arkansas, Fayetteville, UA Monticello, and Arkansas Tech; Chairman of the Department of Botany, UAF, 1926-1950; and author of the Arkansas Forestry Commission publication, *Trees of Arkansas*. In his long and fruitful career, Dr. Moore taught and inspired several generations of college botany students throughout our state. The Dwight Moore award

is given on the occasion of outstanding achievement in either research or publication on Arkansas botany. It is supported by gifts and Supporting Membership dues.

AILEEN McWILLIAM SCHOLARSHIP

This scholarship honors Aileen L. McWilliam, Arkansas' Outstanding Biology Teacher in 1965, member of the Arkansas Natural Heritage Commission, noted author, promoter of the founding of our Society, and one of our state=s most knowledgeable and ardent naturalists. Funds from this memorial provide scholarships to promising students of Arkansas botany. Monies are provided by gifts, the annual auction, and other Society activities designated as such. Aileen McWilliam Scholarships are awarded annually **when there is an applicant approved by the Scholarship Committee.** Awards may be **divided between candidates if more than one applicant applies.**

DELZIE DEMAREE RESEARCH GRANT

This fund honors Delzie Demaree, Arkansas botanist and plant taxonomist and one of the twentieth century's most prolific and effective plant collectors, renowned to the world botanical community for his extensive collections of North American vascular plants. The Delzie Demaree fund provides research grants to deserving students of Arkansas botany. It is supported by Contributing and Life Memberships. Delzie Demaree Research Grants are awarded annually **when there is an eligible candidate approved by the Scholarship Committee.**

CARL AMASON CONSERVATION AWARD

The Carl Amason Award honors a man whose character and achievements reflected the best aspirations of the Arkansas Native Plant Society membership. With unfailing energy and high spirits, Carl led field trips, shared plants, and wrote articles and accounts for *Claytonia*. He was a charter member, a past president, and auctioneer. His efforts on behalf of ANPS earned him universal acknowledgment as a most beloved and successful ambassador for the conservation and preservation of nature. The Carl Amason Conservation Award is given periodically to individuals whose personal efforts help all of us to conserve and enjoy nature's gifts. The Award will include an appropriate monetary consideration not to exceed \$1000.

—Submitted by Maury Baker, January 2008.



Broad beech fern (Phegopteris hexagonoptera) is a common and easy-to-grow native fern of rich woodlands in our mountain counties. Photo by Susie Teague.

ARKANSAS & MISSOURI NATIVE PLANT SOCIETY SPRING 2008 JOINT MEETING

APRIL 4-6, 2008

HARRISON, ARKANSAS

This year's spring meeting will be the first weekend of April, with Harrison as the base for our meeting and field trips. Plan now to join the Arkansas Native Plant Society in Harrison this weekend. We're excited about the joint spring meeting with members of the Missouri Native Plant Society, and encourage everyone to share the native plants and spring wildflowers of the Arkansas Ozarks with our guests from Missouri. Early April in the Ozarks holds the promise of woodland wildflowers, shrubs and showy flowering trees in the forests, and the glade and prairie plants on the rock outcrops and thinner soils. The early spring flora should be peaking, with mid-spring plants beginning to emerge and flower. (And the chiggers should still be hibernating!) It's a great time of the year to be hiking through the Ozarks with a group of knowledgeable native plant enthusiasts. Also, our friends from Missouri will return the favor in late May of 2009 by hosting the ANPS to a joint meeting in Missouri where they'll show us around the prairies of the Osage Plains!

LOCATION

We will meet in the Conference Center of the Comfort Inn at 1210 Hwy 62-65 N, in Harrison, Arkansas (phone: 870.741.7676), web site (www.harrisoncomfortinn.com). The Comfort Inn is located just off Hwy 62/65/412 in Harrison.

REGISTRATION

Registration costs \$5.00 and occurs on-site Friday from 5:00 PM to 7:00 PM, in the Comfort Inn Conference Center. At the registration table we'll have sign-up sheets for various field trips throughout the weekend in addition to handouts, local restaurant recommendations, and other attractions in the Harrison area.

A NOTE ABOUT THE FIELD TRIPS

Several field trips are listed below but others are likely to occur as well. Up to date information will be provided at the Friday evening program. If you would like to lead a field trip on Saturday or Sunday, please contact the editor or Staria Vanderpool and let us know. The more trips the better...

AGENDA

FRIDAY, APRIL 4

OPTIONAL PRE-MEETING FIELD TRIP: Greer's Ferry Lake Area/Mossy Bluff Trail

With our Missouri friends in mind, a special pre-meeting field trip is being planned this year to see a number of species in the southern Ozarks that are either not known from Missouri, are uncommon there, or were only known there historically. Species include the newly-described Ozark spring beauty (*Claytonia ozarkensis*), Palmer's saxifrage (*Saxifraga palmeri*), Arkansas alumroot (*Heuchera villosa* var. *arkansana*), Riddell's spikemoss (*Selaginella arenicola* ssp. *riddellii*), and others. We will meet at the Greer's Ferry Dam Visitor's Center at **10:00 am**. Those staying in Harrison Thursday evening have the option of meeting at the Comfort Inn at **7:30 am** to carpool/caravan to the Visitor's Center (115 miles each way). For more info on this trip call Theo Witsell at 501.831.7473.

7:00 pm: Evening program at the Comfort Inn in Harrison on some aspect of the flora of the Ozarks. Details to be announced.



Ozark spring beauty (Claytonia ozarkensis), growing from cracks in sandstone bluffs along the Little Red River near Greer's Ferry Dam. Photo by Bob Clearwater.

8:30 pm: Arkansas Native Plant Society Executive Board Meeting

SATURDAY, APRIL 5

8:00 am: Field trips depart from the Comfort Inn

Some trips will be held concurrently in the morning and will be offered again in the afternoon, so people should be able to make two of these half day trips. Other trips will likely be all day, or take most of the day. As of press time, people have committed to lead the following trips:



One of the great benefits of membership in the ANPS is access to the expertise of other members, such as retired UAM professor and frequent field trip leader Eric Sundell, shown here with a striking orange mushroom on a recent field trip in the Ouachita Mountains. Photo by Clint Sowards.

1) Buffalo National River (Pruitt and Lost Valley)

Explore the spectacular spring flora of Lost Valley, the legendary hollow along the Buffalo River that was a state park in another lifetime, before the establishment of the Buffalo National River. In addition to high quality mesic hardwood forest and rare plant species like Ozark wake robin and Arkansas alumroot, there are spectacular landforms including a natural bridge, a waterfall issuing from a cave, spectacular bluffs, and Cob Cave, a large prehistoric Native American bluff shelter. We'll also stop at Pruitt to see Alabama snow wreath (*Neviusia alabamensis*), one of the rarest shrubs in North America which will hopefully be in flower. If time permits, there are also some sandstone and limestone glades at Pruitt too that are worth exploring. Half day. Leaders are Burnetta Hinterthuer and Brent Baker.

2) Baker Prairie Natural Area

Baker Prairie Natural Area is the highest quality example of chert prairie left in Arkansas and is a rare remnant of the once 5,000 acre prairie centered around the town of Harrison. Baker Prairie is renowned for its incredible wildflower displays, including a number of rare species. In April we will likely see prairie trout lily, prairie violet, prairie pussy toes, Ozark wake

robin, and others. Joe Woolbright of Ozark Ecological Restorations Inc., who has done much of the management work on the prairie in recent years, will be on hand to give a tour. Birders should bring their binoculars! Half day.

3) Ozark Natural Science Center/Bear Hollow Natural Area/Madison County Wildlife Management Area

The Ozark Natural Science Center (ONSC) is a residential environmental education center nestled on 80 acres within Bear Hollow Natural Area and the Madison County Wildlife Management Area (MCWMA). It provides programs for young people from NW Arkansas schools and other programs for kids and adults around Arkansas. ONSC staff will be available to give a short tour of their facilities (including restroom facilities after the car trip!) before we explore Bear Hollow Natural Area. A system of trails will take us through a wide variety of habitats including dolomite glades, sandstone glades, bluffs, woodlands, and a variety of forest types. A number of interesting ferns will be seen including powdery cloak fern, hairy lip fern, woolly lip fern, Alabama lip fern, purple cliff brake, Bradley's spleenwort, etc. If time permits, we can tour woodland restoration areas in the MCWMA and some large sandstone flatrocks (glades) at the south end of the area. All day (bring a lunch).

1:30 pm: Afternoon field trips depart from the Comfort Inn

7:00 pm: Joint presentation by Paul McKenzie of MONPS and Theo Witsell from ANPS examining habitats and species in the border regions of both Arkansas and Missouri. Emphasis will be on species known from one state but not the other and on habitats in each state likely to be of interest to those in the other. The hope is that NPS members from each state might then be able to turn up new state records or relocate species only known historically in their state.

8:30 pm: Arkansas Native Plant Society General Meeting & Missouri Native Plant Society Board Meeting

SUNDAY, APRIL 6

8:00 am: Field trips depart from the Comfort Inn

Lower Buffalo Wilderness/Turkey Mountain Savanna

On Sunday, Arkansas Natural Heritage Commission botanist Theo Witsell will lead a hike into the edge of the 40,000 acre Lower Buffalo/Leatherwood Wilderness Area near the mouth of the Buffalo River to visit the Turkey Mountain Savanna. See more than 1000 acres of old-growth post oak savanna and glades that are being restored with prescribed fire. This area has a number of rare species in the summer and fall but has not been botanized much in the spring. A moderately strenuous trail leads into the site but we will also go off-trail to see some of the more impressive areas.

CONTACTS

If you have places in the region that you want to share, questions about the meeting, or need assistance, contact Staria Vanderpool at Arkansas State University (870.972.3151) or by

cell phone (870.926.5793 – although I can't promise good reception in the Ozarks), or by email (svand@astate.edu). Or contact Theo Witsell at 501.831.7473. We look forward to seeing you all in the Ozark Mountains in April!



*The Turk's cap lily (*Lilium superbum*) is without doubt one of our showiest native wildflowers. Ozark National Forest. Photo by John Pelton.*

ACCOMMODATIONS

The Comfort Inn, located at 1210 Hwy 62-65 N, Harrison (phone: 870.741.7676), web site (www.harrisoncomfortinn.com) is the meeting center. The Comfort Inn is located just off Hwy 62/65/412 in Harrison. We have 25 rooms blocked for the meeting, for the conference rate of \$71.99 + tax. You must mention ANPS to get this rate, and must reserve by March 25, 2008, by credit card.

A few of the many other lodging facilities are available in the Harrison area, including:

Camping:

Buffalo National River (several campsites in the general area, but Pruitt is probably the closest)

Dogwood Springs RV and Campground, Jasper, AR 72641; phone: 870 446 2163; Web site www.jasperandnewtoncountyresorts.com.

Harrison Village Campground & RV Park, 2364 Hwy 65 S; phone: 870 743 3388; Web site www.harrisonvillagervpark.com.

Hog Heaven RV Park & Café, Jasper, AR 72604; phone: 870 428 5540; Web site www.hogheavenrvpark.com.

Parkers RV Park; 3659 Hwy 65 N; phone 888 590 2267; Web site www.parkersvinc.com.

Shady Oaks, 906 Hwy 206E; phone 870 743 2343; Web site www.camptheoaks.com.

Motels:

Days Inn of Harrison; 1425 Hwy 62/65 North, Harrison; phone 870 391 3297 or 888 391 3297; Web site www.the.daysinn.colm/harrison04766.

Family Budget Inn: 401 S. Main, Harrison; phone 870 743 1000; Web site www.familybudgetinn.com

Holiday Inn Express: 117 Hwy 43 F, Harrison; phone 870 741 3636; Web site www.harrisonexpress.com

Ozark Mountain Inn; 1222 N Main, Harrison; phone 870 743 1949; Web site www.arkweb.com/ozmtinn

Super 8 Motel: 1330 hwy 62/65 N, Harrison; phone 870 741 1741; Web site www.super8.com

Bed and Breakfast Inns:

The Queen Anne House: 610 West Central Avenue – Harrison; phone 870 365 0888 or 1 800 419 9907; Web site www.queenannehouse.net

Harrison House Bed & Breakfast: 205 Jerry Street; phone 870 741 6946.

3 Oaks Bed & Breakfast: 10205 Devore Dr., Harrison; 870 743 4093; Web site www.3oaksbb.com

Cedarhouse Bed & Breakfast: 373 Hwy 14 West, Lead Hill, AR 72644; phone 870 436 3903, toll free 1 800 764 9816

The Arkansas House Bed and Breakfast: Jasper Downtown Square; phone 1 888 ARHOUSE (274-6873) or 870 446 5900; Web site www.thearkhouse.com



*Barbara Baker holds a stem of three-way sedge (*Dulichium arundinaceum*) as other ANPS members look on during a 2007 field trip to some rare upland channel scar ponds near the Alum Fork of the Saline River. Photo by Clint Sowards.*

Upcoming Field Trips and Events

Friday, April 4th—Sunday, April 6th—JOINT ARKANSAS/MISSOURI NATIVE PLANT SOCIETY MEETING in Harrison, Arkansas—Loads of field trips! NOTE: SPRING MEETING FIELD TRIP DETAILS ARE PROVIDED ELSEWHERE IN THIS ISSUE WITH SPRING MEETING GENERAL INFORMATION... See you there!

Saturday, April 5th—2nd Annual Calhoun Community Garden Show—Harvey C. Couch School in Calhoun, Arkansas (5 miles east of Magnolia). Theme is “Where History & Gardening Come Together & Touch For a Day”. 9am-5pm. Crafts, Plants, Wildflower Seeds, Antique Roses, Garden Furniture, One-Of-A-Kind-Sale, Southern Arkansas University Bugdacious Exhibit, Columbia County Master Gardener's Plant Sale, plus Bluegrass, Gospel, & Country Music, and more. For more info call 870.234.9491 or www.magnoliachamber.com.

Friday, April 11th & Saturday, April 12th—Arkansas Academy of Sciences Meeting at Henderson State University in Arkadelphia.

Saturday, April 26th—Field trip to Roaring River area in Missouri—We will meet at the Emory Center at Roaring River State Park at 10:00 AM and go to Butler Hollow from there. We will see lots of unusual spring woodland species like *Valerianella ozarkana* and be sure to bring binoculars as the birding in this area is outstanding. There is a restaurant at the center where we can have lunch and afterward, we will visit the forest service glade just south of the park for a completely different habitat. Roaring River is located 5 miles south of Cassville, MO and can be reached by taking Highway 221 north from Berryville to Mo highway 86 and turning west on F and on to the park. From the west, take Mo highway 37 north from Gateway to 112 and on to the park. Those coming from Fayetteville/Rogers area will take Hwy. 62 to Gateway. Contact Linda Ellis at 417.272.3890 for information or e-mail at lindasellis@hughes.net.

Saturday, May 3rd—Field Trip to Grand Prairie Natural Areas (Joint Field Trip with the Tennessee Native Plant Society and the Memphis Wildflower Society)—Join our friends and neighbors to the east as they cross the Mississippi to explore our beautiful remnant prairies in eastern Arkansas. The trip will be led by Bart Jones of the TNPS, with assistance from Theo Witsell from ANPS. We'll meet at Downs Prairie Natural Area on Hwy 70, just west of Devall's Bluff at 11:00 am. Park along the side of the dirt road at the north end of the prairie (north of Highway 70). See one of the last best remnants of this once 400,000 acre prairie! If time allows, we will also explore Konecny Prairie Natural Area and/or other sites. For directions to Downs Prairie, visit the Arkansas Natural Heritage Commission website at www.naturalheritage.org (and click on Natural Areas) or call Theo at 501.831.7473.

Saturday, May 17th—Field Trip to Petit John Hollow (Ouachita National Forest), Montgomery County—Join

Ouachita National Forest Botanist Susan Hooks to tour one of the largest wooded seep complexes in Arkansas. Meet at Burl's Smokehouse at Crystal Springs on Hwy 270 at 9:30 am. Bring a lunch (or grab one at Burl's) and boots or shoes that you can get wet. There will be lots of good spring wildflowers and rare plants restricted to our better seeps. For more info call Susan at 501.321.5323 or 501.282.5365.

Saturday, May 17th—10 a.m. Field Trip to Leatherwood Creek—For the past two years, we have made plans to hike the trail at Leatherwood Creek. Rain has prevented us from doing so. This year, we are planning to visit Leatherwood Creek in mid-May and are hoping for great weather. Meet at the Leatherwood Creek parking lot, about a mile north of Hwy. 62, ca. 2 miles west of Eureka Springs. The hike is moderately strenuous. For more information, contact Brent Baker at btb2001@yahoo.com or Burnetta Hinterthuer at 479.582.0317 or email at burhint@sbcglobal.net.

Saturday, May 31st—Field Trip to the Tallgrass Prairie Preserve (Pawhuska, OK)—Join veteran Arkansas guides Joe Woolbright and Joe Neal to explore the largest protected tallgrass prairie remnant in the world! We will meet at 9:30 a.m. at the Arvest Bank parking lot in Siloam Springs, Arkansas (across Hwy 412 from Walmart as you come into Siloam from the east). We will stay in Bartlesville, OK overnight. Those who don't want to carpool can caravan or get directions from Joe Woolbright (479.427.4277). Call for lodging details and to reserve a spot.

Saturday, June 21st—Field Trip to the South Fourche Botanical Area (Ouachita National Forest), Perry County—Spend the first day of summer exploring the Ouachita National Forest's newest specially designated botanical area. This area, along the South Fourche LaFave River in the rugged Fourche Mountains, has one of the highest concentrations of rare plants and habitats in the eastern Ouachitas. Explore a number of rare habitats including a large upland channel scar swamp, wooded seeps, glades, bluffs, river scour prairie, and a large natural salt lick. Led by Arkansas Natural Heritage Commission botanist Theo Witsell. Terrain is moderately strenuous and will involve approximately 2 miles of (slow) walking and some bushwhacking, as there are no trails. Limit 25 people. Call Theo at 501.831.7473 for more information and to reserve a spot.

Saturday, Oct. 4th & Sunday, Oct. 5th—Arkansas Audubon Adult Ecology Workshops at Ferncliff Conference Center in west Little Rock. Workshops run from 10 a.m. Saturday to 4 p.m. Sunday. Accommodations available at Ferncliff for out-of-townners. And the workshops are: 1) Mushrooms and other fungi: how to identify, collect, cook, and avoid. Jay Justice, longtime President of the Arkansas Mycological Society, instructor. 2) Edible and otherwise useful wild plants: acorn bread is only the appetizer! Tamara Walkingstick, of U. of Arkansas Ag Extension, instructor. 3) Trees of Arkansas: learn to identify

(and appreciate) more than of our native trees. Eric Sundell instructor. Interested? Check it out at www.arbirds.org. And save the date.

Announcements

CARL HUNTER'S PAPERS AT UCA ARCHIVES—We recently learned that Carl Hunter's papers have been deposited in the UCA Archives. Visit http://archives.uca.edu/special_collection/m89-16.htm for more information.

ARKANSAS AUDUBON ECOLOGY CAMP FOR KIDS—Folks with an 11 or 12 year old in their lives should visit www.arbirds.org for information about the Arkansas Audubon Halberg Ecology Camp at Camp Clearfork west of Hot Springs. This year's camps will be held June 15-20 and June 22-27. This is a great experience for boys and girls with an interest in natural history: studies are mostly out-of-doors and include botany (!), birds, mammals, herps, bugs, geology, ecology, and environmental science. The staff, the food, and the Ouachita Mountain setting are superb.

THE ARKANSAS NATURAL HERITAGE COMMISSION IS LOOKING FOR VOLUNTEERS with an artistic eye (and an interest in learning the plants of Arkansas) to assist with mounting dried plant specimens. The ANHC has thousands of preserved specimens in need of mounting (gluing) on to archival paper for inclusion into their herbarium. This is a great

opportunity to learn the flora and work with rare species. They are most interested in volunteers who can donate 6-10 hours a week of their time and who live in central Arkansas. Volunteers can work from home following a 3 hour training session at the ANHC office in Little Rock. Contact Theo Witsell at theo@arkansasheritage.org or call 501.324.9615 for more information.

FIELD TRIPS NEEDED—As always, we need people to lead field trips to interesting areas. We know you have sites you want to take people to. Please contact the editor if you are willing to lead a trip in your area.



Arkansas Native Plant Society members get their feet wet fording the Alum Fork of the Saline River on their way to explore some rare upland channel scar ponds in Saline County. Summer 2007. Photo by Clint Sowards.

Arkansas Native Plant Society Membership Application

Please check the appropriate box below.

Membership Categories:

- ☐ \$10..... Student
- ☐ \$15..... Regular
- ☐ \$20..... Supporting
- ☐ \$25..... Family Membership
- ☐ \$30..... Contributing
- ☐ \$150... Lifetime Membership (55 and over)
- ☐ \$300... Lifetime Membership (under 55)

- ☐ New Member
- ☐ Renewal
- ☐ Address Change

Please make checks payable to "Arkansas Native Plant Society".

NAME(S) _____

ADDRESS:

Street or Box _____

City _____

State _____ Zip Code _____

Telephone _____ - _____ - _____

Email address _____

Please cut and send this form along with any dues to:

Maury Baker, Membership ANPS
29 Pandilla Way
Hot Springs Village, AR 71909-7121

Please check your mailing label! The calendar year is the membership year. If your mailing label has an 07 or earlier it is time to renew! (Life members will have an LF.)

Please fill in the information form on the opposite side of this page and send it with your renewals, applications for membership, changes of name, address, email, or telephone numbers to the address given on the form: **[Not to the editor]**. Thank you.

PLEASE SEND SUBMISSIONS/ SUGGESTIONS TO:
219 Beechwood St. / Little Rock, AR 72205
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The purpose of the Arkansas Native Plant Society is to promote the preservation, conservation, and study of the wild plants and vegetation of Arkansas, the education of the public to the value of the native flora and its habitat, and the publication of related information.



CLAYTONIA

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**Newsletter of the Arkansas Native Plant Society— Spring/ Summer 2008
AVAILABLE ONLINE IN FULL COLOR AT www.anps.org**

CLAYTONIA

Newsletter of the Arkansas Native Plant Society

Vol. 28 No. 2

Fall/ Winter 2008

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An Audience With The Queen

By Theo Witsell

Craig "Coondog" Fraiser and I recently spent two long hot days in the Springfield Plateau section of the Ozarks exploring sinkhole ponds and two anonymous spring-fed stream gorges*. We had hoped to find some new species for Arkansas – Virginia sneezeweed (*Helenium virginicum*), forked aster (*Eurybia furcata*) and tall larkspur (*Delphinium exaltatum*), but struck out on all counts. But deep down, unspoken even, we were both secretly hoping to discover a new population of the showy lady's-slipper orchid (*Cypripedium reginae*), far and away the rarest and most seldom-seen lady's-slipper in Arkansas. It is so rare, and so spectacular, that it often goes by its other name: The Queen.



Showy lady's-slipper orchid (Cypripedium reginae).
Photo by John Pelton.

As we hiked up the rugged canyon of our first stream, we searched likely habitat for forked aster (bases of bluffs and limestone ledges with an accumulation of rich, moist soil), but to no avail. But the scenery was spectacular and the water was among the cleanest and clearest I've ever seen in Arkansas. So clear, in fact, that the depth could be deceiving, turning what looked like a knee-deep step into a cold, take-your-breath-away belly-deep plunge. Rare and uncommon plants abounded along the stream, with cascades of running strawberry bush (*Euonymus obovata*) spilling from blufftops, and sheer walls peppered with the grey-green foliage of the littleflower alumroot (*Heuchera parviflora* var. *puberula*). The rock ledges along the stream banks were loaded with plants that indicated the presence of groundwater seepage: golden ragwort (*Packera aurea*), umbrella sedge (*Fuirena simplex* var. *simplex*), shining coneflower (*Rudbeckia fulgida*), bishop's cap (*Mitella diphylla*), grass-of-Parnassus (*Parnassia grandifolia*), and bristly-stalked sedge (*Carex leptalea*). In the woods along the stream we also found "new" populations of several rare species including satin brome (*Bromus nottowayanus*), blue cohosh (*Caulophyllum thalictroides*), and butternut (*Juglans cinerea*). Even the sand grape (*Vitis rupestris*), by far the rarest of our native grapes, with its wide, folded leaves, was found growing in the gravel of the stream bed.



The rugged limestone gorges of the Springfield Plateau provide habitat for many rare species. Photo by Craig Fraiser.



The hanging garden, high above the stream, keeping the Queen safe from her enemies. Photo by Craig Fraiser.



Surveying the bluffs is best done from the stream channel, but watch out for leeches, be sure to keep your pack out of the water, and always take a waterproof bag for your camera and phone! You'll fall in eventually. Believe me, I speak from experience. Photo by Craig Fraiser.



The Queen and her court. Photo by Craig Fraiser.

The streams we were traveling in were deeply incised, forming dramatic "box canyons" with bluff walls and narrow floodplains, making walking in the stream channel the most convenient, and perhaps the safest, avenue for travel. Signs of roaring spring floods (dead leaves crammed head high in the branches of shrub thickets, occasional logjams against trees high above the water, and high, steep-walled gravel bars up against deep, scoured, bedrock-bottomed pools) spoke to the fact that the streams, while they are lazy and docile in the summer, can have an excitable mean streak during the wet season. All along, as we waded in the cool water, we scanned the bluffs for the telltale seepage indicators, which would tell us to be on the lookout.

To get to our second stream, we descended over 300 feet down into its gorge from an adjacent ridgetop (there are no roads that cross this particular stream due to the rugged and inaccessible terrain). When we reached the valley floor we arbitrarily decided to go upstream. The water was cold and still running in early August, indicating that springs supply a good portion of the flow. After about a mile of slipping and sliding up the creek, necks craned to survey the bluffs, I did a double-take. There, 16 feet up on a sheer limestone wall, was a small, lush "hanging garden", perhaps five feet wide and three or four feet front-to-back, obviously kept moist by the gentle emergence of groundwater. Against the wall of the bluff, at the back of this secret garden, were ten of the largest lady's-slipper orchids I've ever seen! The biggest were perhaps three feet tall, with leaves eight or ten inches in length. The specific epithet, *reginae* (the Queen), is aptly given.

The unique and fragile microhabitat supporting this small population was remarkable in itself, as was the assemblage of associate species present – the Queen’s court. There were a few small, arching shrubs of ninebark (*Physocarpus opulifolius*) and the uncommon alternate-leaved dogwood (*Cornus alternifolia*). And a number of seepage-loving herbaceous plants: spotted cowbane (*Oxypolis rigidior*), grass-of-Parnassus, bristly-stalked sedge, shining coneflower, bearded shorthusk grass (*Brachyelytrum erectum*), and even eastern columbine (*Aquilegia canadensis*). Everything must have been just perfect... just the right amount of light, the required mycorrhizal fungi to assist the orchids in obtaining nutrients, just the right amount of water, and the inaccessible site itself... a fortified castle to protect the Queen from her enemies, like hungry deer and greedy poachers.

The day, which was hot and humid with thunder clapping in the distance, suddenly seemed brighter with our discovery and I felt somewhat lighter as we slogged back down the creek and up the steep slopes out of the gorge. We didn’t find what we had really set out to find, but we got a number of nice surprises along the way and got a rare audience with The Queen, something I think we’ll both remember for a long, long time.

* *The names of these streams are not disclosed here because of the unfortunate and continued poaching of lady’s-slipper orchids, especially the Queen slipper, from the wild by collectors. Several historical populations in Arkansas are now gone because all the plants were dug out. Carl Hunter once told me that, at one time, he knew of five sites for the species in Benton County, but that all of them had been lost to poachers. Today no populations are known to survive in the northwestern part of Arkansas, and only four are known in the entire state..*

Dr. Henry “Rob” Robison Retires After 37 Years at SAU

After 37 years as Professor of Biology at Southern Arkansas University at Magnolia, Dr. Henry “Rob” Robison has retired from teaching, at least in the formal setting. Dr. Robison is well-known for his work on fishes and crayfishes of Arkansas, but knows a thing or two about plants too... particularly rare and endemic ones. He is co-author of two impressive books: *Only in Arkansas* (a study of the animals and plants endemic to the state) and *Fishes of Arkansas* (the definitive work on the subject). He has also published a number of scientific papers, mentored many students over the years, and been active in the Arkansas Academy of Science.

We wish Rob the very best in his retirement and hope to see him at more ANPS meetings and field trips. Blue skies, Rob. Blue skies...

President Elect On the Move

To the Arkansas Native Plant Society members:

Over the summer I made the difficult decision to accept a position in Missouri and, in July, resigned from Arkansas State University and moved to central Missouri. My spouse had taken a position with a research firm in Fulton, Missouri and I had the opportunity to work on a research project in Jefferson City. After too many years of interstate commuting, we decided this was our chance to work and live at the same address (after last year’s low point, which involved simultaneous ownership of 2 houses, and rental of 2 separate apartments, we were ready to simplify our lifestyle). Now we’re back to 1 house which is a novel concept after 10 years.

Even though I’m no longer employed in Arkansas, I am continuing to work on research projects in Arkansas, and I’ll always consider Arkansas as home. I look forward to serving ANPS during the next year, and continuing to both work with, and enjoy Arkansas plants. I hope to see all of you at the fall meeting in Mammoth Spring, Arkansas.

Starla Vanderpool, President Elect
Arkansas Native Plant Society



Marbleseed (Onosmodium bejariense), an interesting species in the borage family, occurs in scattered locations in Arkansas, typically in dry, open habitat. There are three varieties known from the state. Var. bejariense is known only from dry blackland prairie and chalk outcrops in Little River and Hempstead County; var. hispidissimum is concentrated in the blackland prairies of southwestern Arkansas; and var. subsetosum, while not uncommon in limestone and dolomite glades in the Ozarks, is very rare in the Ouachitas, where it occurs in shale barrens. Photo by Craig Fraiser. Garland County.

PLANT OF THE ISSUE: CREEPING ST. JOHN'S WORT



Creeping St. John's wort (Hypericum adpressum). Globally rare and in Arkansas! Channel scar depression ponds along Alum Fork, Saline County. 2006. Photo by John Pelton.

Back in June, Brent Baker, research botanist at the U of A Herbarium at Fayetteville (UARK), was out looking for rare plants at the Railroad Prairie Natural Area in Prairie County when he came upon something he didn't expect to find. To his amazement, there before him in a ditch along the abandoned railroad bed of the Rock Island Railroad, in an area of low, unplowed tallgrass prairie, was a small colony of one of the rarest plants in Arkansas—one that hadn't been seen in eastern Arkansas in almost 125 years! It was creeping St. John's wort (*Hypericum adpressum*) and he was, justifiably, pretty excited.

This was, in a sense, the *second* time he had found this species in the Grand Prairie. Six months before, back in January, Baker



Specimen of H. adpressum collected in the Grand Prairie by F. Leroy Harvey in July 1884 and housed at the U of A Herbarium in Fayetteville.

was sitting by his microscope in the herbarium at the U of A, painstakingly checking the identity of all the St. John's wort specimens for the upcoming *Atlas of the Flora of Arkansas*. He came across a specimen labeled as *Hypericum sphaerocarpum* (round-fruited St. John's wort) that had been collected in July of 1884 by F. Leroy Harvey, then botanist at the U of A. The location on this specimen label read simply "Grand Prairie. E. Ark.". But something about the plant didn't look right for *H. sphaerocarpum*. Besides, this was noticeably out-of-range for this species in Arkansas – the kind of long-distance outlier that warrants a second look at the specimen.

Baker had been working through the species folders in alphabetical order, starting with *Hypericum adpressum*, represented at UARK by a single Arkansas collection made in 2006 from Saline County by Theo Witsell. At the time, this

PLANT OF THE ISSUE: CREEPING ST. JOHN'S WORT

Saline County collection was believed to be the first of this species from Arkansas and was published as a state record (first collection from the state) in the summer of 2007 in the inaugural issue of the *Journal of the Botanical Research Institute of Texas* (formerly *Sida*). Baker did a double-take and realized that this 1884 specimen was not *H. sphaerocarpum* as the label said, but matched the 2006 Witsell collection. This was a major find. Not only did it establish that there was, at least at one time, *H. adpressum* in the wet grasslands of the Grand Prairie, but *H. adpressum* is a globally rare species considered to be a very high conservation priority in every state where it occurs.

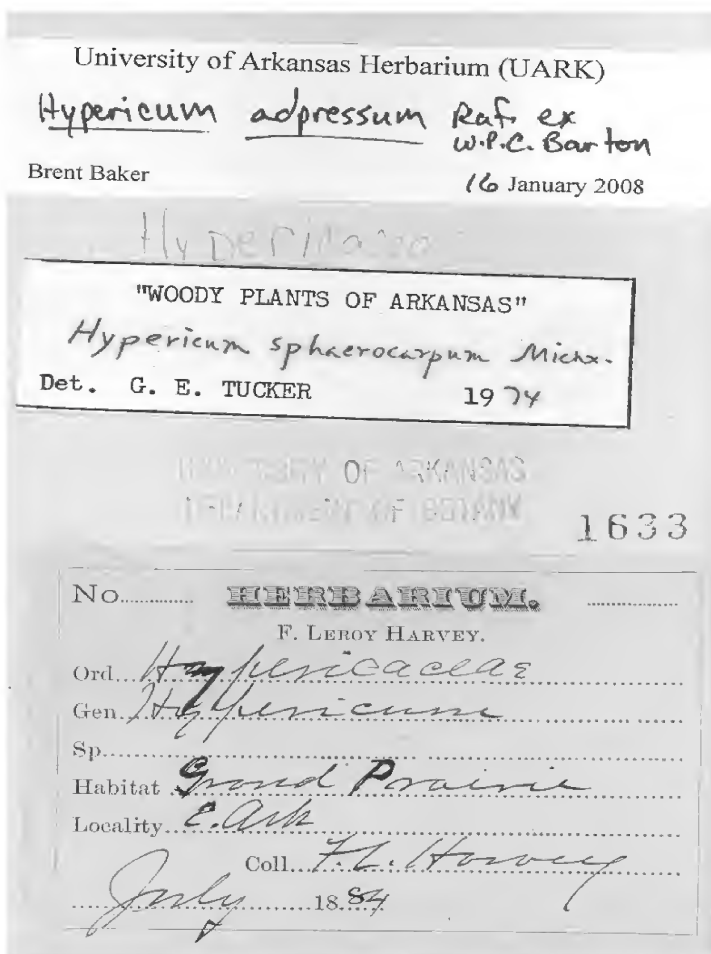
Then, Baker, under contract with the Arkansas Natural Heritage Commission to update older rare plant records from natural areas in the Grand Prairie, found the real live plants still growing in the region! This turn of events is exciting in many ways, but it really goes to show the value of botanical specimens, especially old ones. Nearly 99.9% of the grasslands in the Grand Prairie have been destroyed since Harvey's day, and his collections provide some of the few clues as to what was there historically, before the prairies were decimated (like his Grand Prairie collections of snowy orchid [*Platanthera nivea*], which has never been found in Arkansas again). It was this Harvey collection that alerted us to even the remote possibility that creeping St. John's wort might be found in this region of the state. And it was the search image Baker had from examining the Harvey specimen that allowed him to know it when he saw it in the field.

After Baker returned to Fayetteville and emailed Witsell to let him know about the discovery, Witsell hightailed it to the Railroad Prairie to search other marshes on the natural area. This led to an additional site being found, not far from Baker's site. Both populations are small and, now that they have been accurately mapped and counted, will be carefully managed and monitored into the future. These events also highlight the importance of even tiny protected remnants of original vegetation like the Railroad Prairie. They are precious and are worth the effort it takes to protect and manage them.

—Theo Witsell



Creeping St. John's wort requires open, seasonally wet habitat and is specifically adapted to precipitation-driven ponds and swales with a zone of fluctuating water. The habitat above is a rare type of channel scar pond on an old (abandoned) stream terrace of the Alum Fork of the Saline River in Saline County. *H. adpressum* forms a ring around the edge of such depressions where water keeps competition from other species down. Photo by John Pelton.



ABOVE: Labels on the Harvey specimen—from 1884 to 2008. The lower label is the original, in Harvey's handwriting (identified only to genus). The more recent ones above are annotation labels (labels attached by experts who have examined the specimen)—one from 1974 identifying the specimen as *H. sphaerocarpum*, and Baker's 2008 label with the *H. adpressum* annotation. Such labels, especially on older specimens, tell the history of that specimen.

SPRING 2008 ANPS GENERAL MEETING MINUTES

Comfort Inn Convention Center
Harrison, Arkansas
April 5, 2008

Linda Chambers called meeting to order at 8:35 pm. Linda thanked Staria Vanderpool and Jean Ann Moles for their efforts in organizing our 2008 Meeting. Linda announced having Vascular Flora books for sale and also reported the sale of 33 T-shirts.

Minutes: Maury Baker made motion to accept the Fall 2007 General Meeting Minutes as published in the *Claytonia*, Staria Vanderpool seconded and all agreed.

Treasurer's Report: Jerry McGary presented the treasurer's report. He went over the financial records beginning October 7-April 1. He explained in detail the expenses for distributing the Carl Hunter books. He announced the approval of our 501(c)3 non-profit status. Maury Baker made motion to approve, Susie Teague seconded and all were in favor.

Membership Report: Maury Baker announced 375 members. He attributed a number of new members to the distribution of our ANPS Brochures. He reminded everyone about the dues.

Old Business: Maury Baker explained the structure of the By-laws and the need for changing terminology to provide more flexibility in awarding scholarships, awards, and grants. The proposed amendment was presented in the *Claytonia* as required. The board recommended approval. Eric Sundell made a motion to approve, Linda Chambers seconded. All agreed.

Linda Chambers announced the book-plate design for the Carl Hunter books was ready to be applied to the books. Barbara Baker, Maury Baker and Theo Witsell will apply the book-plates. They will be distributed to the Public Libraries.

New Business: Brent Baker presented a follow up on his work with the Arkansas Vascular Flora Project. He requested a donation to help complete printing of the AVFP Atlas. Theo Witsell suggested ANPS give a donation of \$5,000.00 for this project. Susie Teague made motion to approve, Meredith York seconded and all approved.

Eric Sundell reminded everyone of Earth Day and requested help with the booth at the Clinton Library.

Linda Chambers requested conclusion of the meeting. Maury Baker made motion to adjourn, Eric Sundell seconded and all approved.

Respectfully Submitted,
Susie Teague

NEW MEMBERS

The following new members have joined the ANPS since the last issue of *Claytonia*, from February to August 2008:

New Members

Carol Bantle (Royal, AR)
Thomas Bruce (Little Rock, AR)
Phil & Jan Bullington (Maumelle, AR)
Shelley Buttgen (Berryville, AR)
Carlton Cagle (Fayetteville, AR)
Carol Chappell (North Little Rock, AR)
Cindi Cope (Fayetteville, AR)
Nancy Dockter (North Little Rock, AR)
Laetitia East (Little Rock, AR)
Grady Ford (Little Rock, AR)
Jack & Claudia Hamilton (Little Rock, AR)
Sue Hollis (Kansas City, MO)
Cody Hooks (Little Rock, AR)
Frank James (Maumelle, AR)
Paula & David Knighton (White Hall, AR)
Barbara Landrum (Hot Springs Village, AR)
Katherine Matthews (Scott, AR)
David Moore (Rolla, MO)
Roselie Overby (Oak Grove, LA)
Esta Lee Pattie (Lead Hill, AR)
Millicent Phillips (Marshall, AR)
Ann Porter (Harrison, AR)
Kathleen Redd (Mandeville, AR)
Chuck Robinson (Parkville, MO)
Darcia Routh (North Little Rock, AR)
Joanna Seibert (Morrilton, AR)
Lynn Senn (Little Rock, AR)
Lisa, Charles, & Max Vargo (Royal, AR)
Sharron Walter (Paron, AR)
Claire Whiteside (Harrison, AR)
Kathleen H. Wittmann (Franklin, AR)

New Life Members

Virginia Alexander (Conway, AR)
Bill Beall (Fort Smith, AR)
Cheryl Lavers (Jonesboro, AR)
Norman Lavers (Jonesboro, AR)
Larry Lowman (Wynne, AR)
Mary Reuter (Berryville, AR)
Lynn Senn (Little Rock, AR)
John Simpson (Hot Springs, AR)

We welcome these new members to the ANPS and hope to see them at the Fall Meeting!

FIELD TRIP REPORTS

Lost Valley Field Trip, ANPS Spring Meeting in Harrison, April 5, 2008

By Eric Sundell

*Under the beech wood tree
Who loves to lie with me?
And turn his merry note
Unto the sweet bird's throat?*

*Come hither, come hither!
Here you'll find no enemy
But winter and rough weather.*

Burnetta Hinterthuer and Brent Baker led a large group of us to Lost Valley for one of the most exquisite and spectacular rich woods wildflower shows I've ever seen. The spring perennials were at high tide: toothwort, hepatica, phlox, rue anemone, yellow bellwort (the largest, showiest one), yellow dog-tooth violet, several real violets (blues and yellows), wood betony (a locally common purple form). Two kinds of trillium were open: Ozark wake robin, which ages from pure white to an alluring pink, and one of the purple nosebleeds, the scarcer one, *Trillium sessile*, in both its familiar purple and less familiar yellow forms. Even the wildflowers not yet in bloom were tantalizing—mayapples and two species of waterleaf, in particular, proclaimed that high tide would last at least another couple of weeks.

The setting for these floral fireworks was hardwood forest dominated by beech trees. No tree in North America is more impressive than a large, smooth-barked beech. Trees can reach 70-80 feet and rarely even 100-120, with trunks 2-3 feet in diameter. In former times, diameters of 4 feet were not uncommon. In *A Natural History of Trees of Eastern and Central North America*, Donald Culross Peattie describes the beech, in almost any landscape, as the finest tree to be seen: "Far down the aisles of the forest the beech is identifiable by the gleam of its wondrously smooth bark, not furrowed even by extreme old age." In autumn, beech leaves turn a bright golden yellow. In winter—more or less as we saw them on April 5th—the gray, skin-tight bark of even the most massive trees is set off against a web of branches tipped with slender, lustrous brown, inch-long buds, the longest winter buds of any North American tree. In the understory, the young beeches aren't conventionally deciduous—their bleached leaves hang on the branches through the winter, and you can spot the saplings from the highway just as clearly as you can the dogwoods in early spring. Except on Crowley's Ridge, beech populations in Arkansas are uncommon and scattered—for several years Don Crank has searched unsuccessfully for his first beech tree of Garland County.

Worldwide, there are 8-10 species of beech, all in the Northern Hemisphere and most of them in Asia. Europe has a single

species, *Fagus sylvatica*, that's widely grown in American gardens, especially in copper, weeping, and corkscrew forms. North America also is home to a single species, our own *F. grandifolia*, that ranges from eastern Canada south to Louisiana and Texas. With sugar maple and yellow birch, the American beech dominates the central northern hardwood forests of Ohio, Indiana, and southern Michigan. In the 19th century, beechnuts were one of the favorite foods of the passenger pigeon. Rebecca Rupp in a florid natural history and lore of North

American trees, *Red*

Oaks and Black Birches, lists beechnuts at the top of the birds' menu, and Audubon's portrait of a pair of passenger pigeons places them on beech boughs beside a cluster of withered leaves, i.e., during mast time. The clearing of those great beech forests especially in the north central states is thought to have been as decisive as slaughter to the extinction of the passenger pigeon. Disjunct islands of beech trees grow at relatively high elevation in the mountains of eastern Mexico, where they occur with a number of species we're familiar with here in the southeastern forests, like sweetgum, black cherry, trumpet vine, yellow jessamine, and poison-ivy.

Beech trees in North America are sufficiently abundant to have acquired their very own parasite, the highly specialized *Epifagus virginiana*, or beech drops. The genus is monotypic—though there are other species of beech in the Northern Hemisphere, there are no other beech drops. Like the mycotrophic Indian pipes we saw during the Hot Springs meeting last fall, the plants have no chlorophyll. They're root parasites, penetrating and living within and upon the roots of the host trees and drawing from them all the nourishment they need to sustain their brief annual activity above the ground. In late summer and fall, delicate, succulent stems emerge from the soil to flower, and then



Old-growth beech (*Fagus grandifolia*) at Dismal Hollow Research Natural Area, in Newton County, where beech trees were protected from logging by bluffs and grow nearly five feet in diameter. Photo: Gayle Garrison/ANHC.

FIELD TRIP REPORTS

set and disperse seeds—the tiny, purplish flowers are pretty under a lens; the pollination system is apparently complex, involving two different kinds of flowers with different functions. The stems desiccate and shrink through the winter to form tough, wiry, blackened skeletons, persistent enough for us to find them under the larger beech trees about six months later during that glorious walk through Lost Valley.

Beech trees are imperiled by a blight called beech bark disease, caused when an exotic (non-native) scale insect attacks and weakens the bark, allowing a pathogenic fungus, an ascomycete of the genus *Nectria*, to invade and often kill it. More damage can occur when other insects and fungi penetrate the wood beneath the dead bark. Heavy infestations of beech bark disease in the Northeast have caused high mortality in beech stands. The scale insect, *Cryptococcus fagisuga*, was introduced into Nova Scotia in the 1890's. The disease was first recognized in Nova Scotia in 1920 and in the U.S. in Massachusetts in 1929. The scale insect is now known throughout New England, New York, and New Jersey and continues to spread to the southwest. It was discovered in Great Smoky Mountains National Park in 1994. Perhaps there's reason for optimism in the fact that some trees in heavily infected stands seem to be resistant to the beech scale and remain vigorous and disease free.

Tales from the Border (of Missouri and Arkansas): A Trip to the Tallgrass Prairie Preserve in Oklahoma

By Linda S. Ellis

This is the tale of another border, the one between Oklahoma and Kansas and the ANPS field trip to the Nature Conservancy's Tallgrass Prairie Preserve. On Saturday May 31st, 2008, Joe Woolbright, our master prairie manager and Joe Neal, birder extraordinaire, led us on a trip to the 45,000 acre Flint hills

grassland which is as much a research site for prescribed fire applications and free-ranging bison management as a botanical preserve.*

This was my second trip with the ANPS group to the preserve as a similar event was organized in September, 2006. The two experiences were radically different since the previous fall trip was during the worst drought in 50 years and this spring was the wettest in the same time span.



Poppy mallow (Callirhoe), Tallgrass Prairie Preserve. Photo: Linda Ellis.

Joe Woolbright said the first section we journeyed through was recently acquired by the Nature Conservancy and it had a completely different look to it than longer-held areas of the prairie that had undergone prescribed fire management. It had obviously been grazing land for cattle as the populations of bitter, unpalatable forbs, referred to as “increaser” species far outnumbered the “decreaser” species or those that ruminants prefer. For example, one of the most prevalent species in this section and throughout the park was *Asclepias viridis*, commonly called antelope horn or spider milkweed. This plant, when broken, exudes the toxic, white sap for which the family is known and is avoided by grazers. Another very prevalent species was *Psoraleidium tenuiflorum*, commonly known as slimleaf scurf pea. The abundance of this purple flowered legume surprised me as I had always considered plants in the Fabaceae (bean and pea family) to be a favorite of ungulates. This plant is reported to be poisonous to cattle, however, which accounts for it remaining untouched. I also saw other bitterly aromatic species similarly avoided like yarrow (*Achillea millefolium*) and mexican hat (*Ratibida columnifera*) in this new section of the park.

In the original part of the Tallgrass Prairie Preserve, the plants we encountered included pale pink showy evening-primrose (*Oenothera speciosa*) in abundant numbers, sky blue Carolina larkspur (*Delphinium carolinianum*), the hot pink flowers of sensitive brier (*Schrankia uncinata*), bright yellow green thread (*Thelesperma filifolium*), orange butterfly milkweed (*Asclepias*



Photo by Linda Ellis.

FIELD TRIP REPORTS

tuberosa) and the delicate white blooms of *Callirhoe alcaeoides* or pale poppy mallow. Each turn of the road revealed a full spectrum of colors arranged at random creating a rich display for the botanist's or artist's eye.

What I didn't see was any sign of the standard prairie species that I expected like pale purple coneflower (*Echinacea pallida*) or beebalm (*Monarda fistulosa*). Apparently, during the debilitating drought of the previous years, the bison were left on the preserve and, although they live almost exclusively on grasses, in extreme need or in winter, they will eat almost anything. I think the combination of severe drought and 2,500 hungry bison have decreased species diversity on this preserve at this time and it may be a while in recovering.

I also wondered about the lack of Indian paintbrush (*Castilleja coccinea*) on the park as I had seen it blooming along roadsides we passed that day. The TGPP, I found out, has conducted a comprehensive fire management program under the direction of Bob Hamilton, director of science and stewardship for the Nature Conservancy. The patch burn method that has been implemented there has aided in-depth research on prairie chicken recovery. Burning, however, is a major setback to the Indian paintbrush and now it is not listed as occurring in the park at all**.

The birders among us were kept busy with some interesting sightings. The most frequently seen bird that day was the Dickcissel. I had heard this bird has been in serious decline in recent years due to pesticide usage and habitat loss in Mexico and northern South America where it migrates in winter. I hope the large population we saw on the preserve indicates a comeback for this species. They were everywhere. Joe Neal got his spotting scope on an Upland Sandpiper which was typically perched on a fence post and also spotted a Prairie Chicken on the cattle grazed section. As much as I like botanizing and birding, one can get whiplash trying to do both at once.

Our day ended not with sunset but with more rain followed by more rain Sunday all the way back to my border. Having visited tallgrass preserves all across Missouri and in other states, I must say I enjoy the greater species diversity on an ungrazed prairie but the dramatic experience of being in the middle of a bison herd makes a trip to the Tallgrass Prairie Preserve a must.

* For further information, go to the Nature Conservancy in Oklahoma website (www.nature.org) and click on the Tall Grass Prairie Preserve link. Especially interesting is a series of articles called "Across the Fence" written by TGPP volunteer Bill Rinehart for the Pawhuska newspaper.

** Editor's note: Similar declines in Indian paintbrush have been seen in some Arkansas prairies managed exclusively with fire, but the incorporation of summer or fall haying as a management tool has resulted in the dramatic reappearance of

this species on several sites, even on prairies that have seen little to no paintbrush for several years. Seasonality of burning is also evidently a factor, with spring burning negatively affecting the paintbrush more severely than fall burning.

Trip to Lake Leatherwood and Ninestone, Carroll County

By Burnetta Hinterthuer

The Ozarks Chapter of the Arkansas Native Plant Society visited Carroll County on May 17th. In the morning, we visited Lake Leatherwood with Brent Baker leading the hike. Others were Linda Ellis, Frank and Mary Reuter, Don Mills, Jim Dudley, Rick Hinterthuer, Adam Hinterthuer, Ginny Masullo, Annie Littell, Steve Holst and myself. We took a trail that begins in a low floodplain and leads up to a ridge glade. Since we were going on to Ninestone in the afternoon, we did not hike the entire trail. But, we were very happy to find a new site for false hellebore (*Veratrum woodii*—a state species of conservation concern), along the upper woodland trail. This turned out to be the second known site for the species in the county. Many of the more common wildflowers seemed to have benefited from the abundant rain this spring. The waterfall was cascading over the shelves and looking beautiful as usual. Judith and Don said that it never stopped flowing throughout the year. A group of birders including Joe Neal and Joe Woolbright had visited in the morning.

The spring's abundant rainfall was in evidence at Ninestone as well. We walked out to the glade site where we saw the first Barbara's buttons (*Marshallia cespitosa* var. *cespitosa*) of the



There is no mistaking the wide, pleated foliage of Wood's false hellebore (*Veratrum woodii*), a rare species of rich woods in the Arkansas mountains. Photo by Linda Ellis.

FIELD TRIP REPORTS

Seeds of American Bellflower Needed for Research Project



Barbara's buttons (Marshallia cespitosa var. cespitosa), just beginning to bloom. Photo by Craig Fraiser.

year opening up, with many others promising they would soon follow. Two species of false dandelion (*Krigia dandelion* and *Krigia biflora*) were in bloom along with coreopsis, sandwort, yellow star grass, sedum, phacelia, and false garlic, which were widespread over the glade. Judith described having found great Indian plantain (*Arnoglossum muhlenbergii*) at a woodland site and will report to ANHC as a new county location. A fringe tree in the front yard was in full bloom and smelled great as well. One of the most startling finds of the day was in the seep area where a beautiful copperhead snake lay hidden by the surrounding previous season's leaves. I finally noticed it after stepping over for the second time. Thanks again to Judith and Don for welcoming us at Ninestone.



Widow's cross (Sedum pulchellum). Photo by Craig Fraiser.

We are studying the genetic basis of reproductive isolation in *Campanulastrum americanum* (Campanulaceae) (synonym = *Campanula americana*; common name = American Bellflower) both in the field and in the greenhouse at the University of Virginia. We identified you as Arkansas native plant enthusiasts who might be willing to help us in our endeavor.

As part of our ongoing research, we are hoping to obtain seed from populations throughout this species' range (essentially the eastern half of the U.S.), and have been very fortunate to have found volunteer collectors representing most areas therein. These collectors will collect a small amount of seed on our behalf later this summer/fall and send it to us here in the Biology Department at the University of Virginia. However, we have been unable to find willing volunteers anywhere in the state of Arkansas.

Therefore, I am writing to you now in the hope that you may know of someone who might be willing to collect seed (a few seed pods from each of 20-30 individuals) from a population anywhere in the state of Arkansas. The seeds from a given individual could be stored together, but the seed from separate individuals would need to be kept separate. Of course, to make this process as easy as possible, we would be very happy to send our collecting protocol and collection and mailing supplies to willing parties.

Thank you. Any help you might be able to offer would be greatly appreciated.—Brian Barringer / Department of Biology / University of Virginia / Charlottesville, VA 22904 / bcbarringer@virginia.edu



Photo by Craig Fraiser.

ARKANSAS NATIVE PLANT SOCIETY FALL 2008 MEETING & PLANT AUCTION

OCTOBER 24-26, 2008

MAMMOTH SPRING, ARKANSAS

The fall meeting of the Arkansas Native Plant Society will be held the weekend of October 24, with Mammoth Spring as the base for our meeting and field trips. Plan now to join the Arkansas Native Plant Society in Mammoth Spring this weekend. It's been several years since the group met in the north part of the state for the fall meeting, so we'll have a chance to see the diversity of fall wildflowers and the fall foliage display.

The community of Mammoth Spring is located on the Spring River at the Arkansas/Missouri border at Mammoth Spring, the 10th largest spring in the world (for more information about the region visit the website at: <http://www.mammothspringar.com/home.html>). The spring is the source of the Spring River, a popular float stream, and a well known rainbow trout fishery. The area is noted for the scenic beauty and relaxed environment. Nearby communities include Hardy (<http://www.oldhardytown.net/content/index.html>) and Cherokee Village (<http://www.sracc.com/>).

Natural features of the region include forested (cedar) glades, open glades, upland oak hickory forests and woodlands, prairie, and wetlands. Two features of the fall meeting include the aquatic and wetland plants of Spring River, and plants of Rock Creek Natural Area (a dedicated state Natural Area embedded in the Harold E. Alexander State Wildlife Management Area). Rock Creek Natural Area includes a series of calcareous seep-fen and dolomite glade plant communities associated with Rock Creek. It contains one of the highest concentrations of rare plant species in Arkansas, and includes examples of one of the rarest plant communities – calcareous fens. Notable fall-flowering plants include Riddell's goldenrod (*Solidago riddellii*), grass-of-Parnassus (*Parnassia grandifolia*), purple leaf willowherb (*Epilobium coloratum*), cardinal flower (*Lobelia cardinalis*) and big blue lobelia (*L. siphilitica*).

Field trips being planned include a range of difficulty, from paved trails through Mammoth Spring State Park, to slippery and wet (aquatic plants of the Spring River). Final details of field trips will be published on the ANPS website. Full information about field trips will be available Friday evening at the meeting.

LOCATION

Meeting events will be held in the historic Episcopal Church building, located at 575 Main Street, adjacent to the City Park, in Mammoth Spring. It is easily located. If you enter from US 63 (the north or south), turn west at the three-way intersection of US 63 and Main Street. From the west, Arkansas Hwy 9 becomes Main Street. Parking is available at the Episcopal Church building, the park, and adjoining streets.

If you need information about the city, Mammoth Spring State Park or other area sites, check with the staff at the State Park Visitor Center, located to the east of US 63, as you enter Mammoth Spring.

REGISTRATION

Registration costs \$5.00 and occurs on-site Friday from 5:00 PM to 7:00 PM, at the Episcopal Church building (575 Main Street). At the registration table we'll have sign-up sheets and trip information for various field trips. Registration will also be available Saturday evening.

A NOTE ABOUT THE FIELD TRIPS

Up to date information will be provided at the Friday evening program. If you would like to lead a field trip on Saturday or Sunday, please contact the editor or Stasia Vanderpool and let us know. If anyone would like to arrive early and visit some of the areas, then lead a fieldtrip to that area, please get in touch with Stasia Vanderpool. This area has not been explored as thoroughly as some regions of the state, so we don't have many people who are familiar with the area. The more trips the better...

AGENDA

Friday, October 24th

5:00 – 7:00 pm: Registration

7:00 pm: NATIVE PLANT AUCTION – FUNDRAISER

This year's event begins at 7PM on Friday evening with our annual native plant auction in the Episcopal Church building. This popular fundraiser is great for those who want grow and

culture natives in their own gardens. The informal auction offers plants lovingly grown by our members; these plants have not been taken from their native location unless threatened by habitat destruction. Items such as books, seeds, crafts, homemade jams, garden tools, carved wood items, etc. are often featured as part of the auction. Proceeds from the auction support scholarships and research activities by young botanists studying Arkansas plants.

If you have items to donate for the auction, simply bring them to the meeting and give them to one of the organizers. To fuel auction participants, we will provide coffee, soft drinks, and snacks. We appreciate members who bring snacks to share.

Saturday, October 25th

8:30 am: Field trips depart from designated sites.

Please pickup a fieldtrip sheet at the meeting on Friday night. Some trips will be held concurrently in the morning and will be offered again in the afternoon, so people should be able to make two of these half day trips.

7:00 pm: Evening Program: Dinner is on your own, then at 7, we meet again at 575 Main Street, Old Episcopal Church building, for our evening program.

After a break for refreshments the Society's business meeting will follow.

Sunday, October 26th

8:30 am: Field trips depart from designated sites.

CONTACTS

If you have places in the region that you want to share, questions about the meeting, or need assistance, contact StariaVanderpool (870.926.5793) or by email (StarVand@gmail.com). You may also contact the editor, Theo Witsell at 501.831.7473. We look forward to seeing you all in Mammoth Spring in October.

ACCOMMODATIONS

Mammoth Spring Lodge, U.S. Hwy 63, at the Arkansas/Missouri state line. We have 20 rooms blocked for the meeting, for the conference rate of \$66.00 for a single, with doubles, and family suites also available. Contact the lodge for rates for larger rooms. ANPS participants will receive a 15% discount (to get this rate, you need to show a copy of the newsletter). **Room blocks will be in place until October 1.** Reservations may be made by phone (870.625.0099) or web (www.mammothspringlodgemotel.com). A continental breakfast is served from 6:00 – 10:00.

Other lodging in the area includes:

Riverview Motel, located off Hwy 63, on the south side of town. Rooms at the Riverview Motel range from 48.00 + tax to

\$62.00 + tax. Upstairs rooms are described as larger, with a spectacular view of the river. In-room coffee is provided, but does not include breakfast. Reservations may be made by calling 870.625.3218.

Jewel's Log Cabins. Six new log cabins are available for rent. These are located directly across US 63, behind the Cedar Mall Flea Market. Cabin rental ranges from \$85.00 + tax to \$129.00 + tax. Cabin rental is based on the number of people in the party, with 3 cabins accommodating up to 6 people, and 3 cabins accommodating up to 8 people. Each cabin includes a stove, refrigerator, and microwave. Linens are provided, and minimal cooking gear. Call Dan at 870.625.0521 to reserve a cabin. He recommends that reservations could usually be made up to 2 – 3 weeks in advance of a planned visit.

Roseland Inn Bed and Breakfast, located at 570 Bethel Street in Mammoth Spring, provides 4 bedrooms, at \$60.00 + tax. Reservations may be made by calling 870.625.3378, or emailing the owner at Roseland@socket.net.

Camping: Camping is available during the summer season from the following businesses, but they may not be open after Labor Day. Contact them if you are interested in camping. Flooding during the 2008 spring damaged numerous riverside campgrounds, which may or may not be open this fall.

Riverside Resort
Harold Chaffin
63 North, South of Mammoth Spring
Mammoth Spring, AR - 72554
(870) 625-7501

Southfork Resort
Chris and Julie McCollum
7230 Hwy 289 N
Mammoth Spring, AR - 72554
(870) 895-2803

Additional accommodations are available in Hardy and Cherokee Village (16 scenic miles south of Mammoth Spring, off Hwy 63 and Hwy 412).

DINING

Several restaurants are located in or near Mammoth Spring. Thayer, Missouri is approximately 3 miles north of Mammoth Spring, accessed by US Hwy 63. Other restaurants are found in the Hardy-Cherokee Village area, south of Mammoth Spring, and in West Plains, Missouri, approximately 35 miles north of Mammoth Spring, on US Hwy 63.

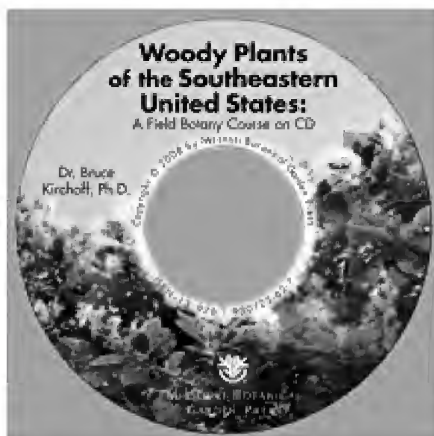
- Fred's Fish House, 225 Main Street, Mammoth Spring
- Hog Wild Pizza, 201 Main Street, Mammoth Spring
- Out of the Way Café, 365 Main Street, Mammoth Spring
- Woods Riverbend Restaurant, 80 Main Street, Mammoth Spg.
- Stateline Restaurant, Hwy 63 North, Thayer, Missouri.
- Sonic Drive-In, Hwy 63 North, Mammoth Spring
- Warm Fork Restaurant, 210 Risner Street, Thayer, Missouri
- Dairy Queen, Junction Hwy 63 and Hwy 19, Thayer, Missouri
- The Whistle Stop Café, 101 Chestnut Street, Thayer, Missouri

REVIEWS

Woody Plants of the Southeastern United States: A Field Botany Course on CD

By Bruce Kirchoff, Ph.D.

Missouri Botanical Garden Press. \$27.



In the heat of an Arkansas summer, wouldn't it be pleasant to take a botanical field course in tree identification in the air conditioned, chigger-free comfort of your living room? This is now possible with a new "publication" (2008) from the Missouri Botanical Garden, *Woody Plants of the Southeastern United States: A Field Botany Course on CD*. It is so chock-full of excellent color photographs, you can study both beginner and intermediate tree identification without stepping outside. You slip the CD into the computer and let your mouse do the walking! If the course takes you all summer, you won't have to test your mettle on a real tree until fall, when the highs are back into the 70's and 80's, the black gums are in full color, and the oaks are offering mature acorns for study aids. The CD is part of the "Image Quiz family of programs," whose goal is to "increase understanding of complex subjects through visual learning." To a great extent, it works. Hundreds of critically detailed pictures can make the study of tree identification faster and easier.

The disk comprises two separately authored "modules," what I'll call the "main program" (created by Bruce Kirchoff, Ph.D., of University of North Carolina Greensboro) and "Text & Images" (created by Alexander Krings, of North Carolina State University in Raleigh). If the CD is a dendrology course, then the main program is the textbook, and Text & Images supplements it like a lab manual. The main program includes 3 species lists arranged by family, genus, and common name as well as a slate of advanced spelling, timing, and testing features. And of course there's a tutorial on how to run the program and make use of all its bells and whistles. This review will deal mostly with the main program.

The species list for the main program includes some 250 kinds of trees, shrubs, and woody vines, each one illustrated by between 2 (Table Mountain Pine) and 39 (Hornbeam) images. Most species have 1-2 dozen. Here are picture counts for some Arkansas plants: Red Maple 20, Sugar Maple 25, Silver Maple 13, Box Elder 26; White Ash 16, Green Ash 20; Parsley

Hawthorn 7, Pasture Haw 9; American Elm 24, Slippery Elm 14, Winged Elm 22; Blackgum 30; Persimmon 17; Japanese Honeysuckle 11; Chinese Privet 4; Callery Pear 38. The pictures are bright and sharp and for the most part judiciously selected, showing habit (form), bark, buds, leaves, flowers, and fruits. Attention to critical detail is everywhere: bark of older trunks and younger branches compared; upper and lower leaf surfaces contrasted in a single frame; twigs and buds standard for most of the trees; for Red Mulberry, the tiny branch scar beside the terminal bud as well as the arching lateral leaf veins perfectly illustrated. Included are pictures of enormous interest but nonessential for purposes of identification—oak catkins, for example—a nice touch of enrichment. The most thoroughly treated species, with 20-30+ images, do tend to become repetitious and could be pruned. Rarely do key characters go unillustrated—in a quick sampling of the main program's images, I found only one instance: missing are the little pitch pockets in the bark of Shortleaf Pine by which it can be readily distinguished from Loblolly. Similarly, the program is marked by a high degree of accuracy, and I noticed only one species mislabeled: pictures of "European Privet" were of Chinese Privet, Arkansas' Public Enemy No. 2. There are of course some important, even diagnostic field characters for which a few words are worth a thousand pictures: the aroma of a bruised Sassafras twig, the taste of the inner bark of Slippery Elm. And finally, range and habitat, essential information for students of tree identification, are not illustrated or described and should be worked into a future edition. A virtual textbook can be extremely clever, and here the lessons are probably less routine and more enjoyable in 3-dimensional cyberspace than they might be on 2-dimensional pages: pictures can be scrambled, they can be advanced manually or at varying speeds, they can be mixed with other species—there is a lot to explore.

When you have finished your homework, the program challenges you with both quizzes and tests. The quizzes especially are a lot of fun and, depending on your time settings, very challenging: you can choose Image Naming, Image Comparison (Do the two pictures represent the same or different species?), or Image Verification (Is the name suggested correct or not?). And you get feedback! Clever students are rewarded with five different praise responses: "Good job!" "Great!" "Excellent!" "Affirmative!" and "Way to go!" On the other hand, the slacker receives only a single, monotonously repeated response: "Your answer is incorrect. Would you like to try again?" (It would be fun here to encourage better study habits with a few more colorful negatives: "You've gotta be kidding!" "Give me a break!" "No way!" "Ohhhhhhh, sorry!" "Tsk! Tsk!")

A drawback to the main program—this one serious—is that the images are not supported by text. There is no reference to diagnostic features—even when they're illustrated—by which a particular species can be distinguished from its closest allies or

REVIEWS

look-alikes. For example, although white ash and green ash fruits are clearly shown, no description is offered to highlight the rather subtle difference between them that is one of the surest ways to tell those two difficult species apart. There are no arrows, like in the Peterson bird guides, to direct your attention to the key characters. Your powers of observation must be keen, and you'll need to supplement them with another reference work that tells you what to look for—a field botany *guide* rather than just a *course*. For this reason, it is not unfair to say that the main program tends to be least helpful when you need it most: to tell the toughest species apart, like White and Green Ash, Cherrybark and Southern Red Oak, Hackberry and Sugarberry, Blackgum and Persimmon, Red Mulberry and Basswood.

The All Pictures/No Text problem with the main program is mitigated by the CD's ancillary module called "Text & Images." Here, families and genera are technically described, with key characters in clickable blue

font. Thus a read-and-click through the description of, say, the genus *Quercus* (the oaks), gives you instant images of leaves, acorns, twigs, leaf scars, terminal bud clusters, bark, and more. (These images are from the website www.bioimages.vanderbilt.edu and require an Internet connection to view.) Although Text & Images does not solve or even address the problem of telling certain exasperating species pairs apart, it's nonetheless an informative and enjoyable supplement. A list of species follows each genus. And technical references are provided.

Short of a technical floristic work, it's doubtful that any treatment of the woody plants of the Southeast would provide satisfactory,



Green ash (*Fraxinus pennsylvanica*). Photo by Carl Hunter.

comprehensive coverage of Arkansas species. Because we're so much on the geographic fringe of things, regional or local species, however important or intriguing they seem to us, tend to disappear—for example, Ashe's Juniper, Sandbar Willow, Vernal Witch Hazel, Cedar Elm, Nuttall Oak, Durand Oak, Maple Leaf Oak, Black Hickory, Texas Sophora, and Western Soapberry. (That both authors of the current CD live and work in North Carolina doesn't help.) Another group that gets short shrift in a general work is that of the taxonomic troublemakers: large, complex genera like hawthorns, plums, grapes, azaleas, and blueberries—in the current work, the Arkansas casualties include 18 hawthorns, several plums, 5 grapes, all 3 wild azaleas, and 3 kinds of blueberries (or 1 if you lump them into *Vaccinium corymbosum*). But this would be expected even in the heart of Dixie. What one does not expect in a floristic study of the "Southeastern United States" is a sizeable group of no-shows comprising species common or at least occurring both in Arkansas and the Southeast generally: what happened here, for example, to Southern Catalpa, Water Hickory, Chinkapin, White Mulberry, Carolina Ash and Pumpkin Ash, Swamp Cottonwood, and several shrubs and vines? Finally, and also unaccountably, three economic and ecological giants from the Atlantic and Gulf Coastal Plains—indigenous below our southern border—are missing: Slash Pine and Longleaf Pine, and Live Oak. I could find no statement explaining the criteria for inclusion of species in the main program. And I could find no explicit geographic description of "the Southeastern United States." (Is Arkansas in or merely close?) I could have overlooked these specifications in the CD's cyberspace, but whether missing or only tucked away in a corner, they are specifications that are absolute requirements of any floristic effort and should be clearly and prominently communicated to the user. (In the "Text & Images" module, Alexander Krings states that his area of coverage is identical to that of Alan S. Weakley's on-line *Flora of the Carolinas, Virginia, and Georgia, and Surrounding Areas*, where "surrounding areas" include Tennessee and Mississippi but do not cross the Mississippi River into Arkansas. For whatever reason, Krings' species list does not precisely match Kirchoff's, and many of the species cited above as AWOL from the main program are in fact enumerated in Text & Images and in some cases illustrated with a few photographs.)

To buy or not to buy? *Woody Plants of the Southeastern United States* was developed more for academic users than for amateur naturalists. The program can serve as a great backup to a dendrology textbook and help prepare undergraduates for the weekly ID quiz. Then again, the numerous pictures are among the best you'll find on the Internet or in any woody plant manual or guidebook, and the program drawbacks are minor, especially if you own a companion Hunter's *Trees, Shrubs, and Vines of Arkansas*. So if you're an ANPS member looking for a rigorous "Field Botany Course"—or at least for some tutoring—on woody plants, for \$27, the CD is a pretty good bargain.

—REVIEW BY ERIC SUNDELL

Emerald Ash Borer Confirmed in Missouri, 30 Miles From Arkansas Border— Ash Seed Collection Effort Underway

*Editor's Note: This is bad news. I just learned of this recently, and it is only a matter of time before this destructive pest arrives in Arkansas. There is a national effort (The National Ash Tree Seed Collection Initiative) being made to collect germplasm (seed) from all native species of ash (across their ranges) as a safeguard against their extinction (in the event that this pest cannot be contained and ash trees in North America are decimated). There is a simple but important protocol that needs to be followed. For more information, visit <http://www.mi.nrcs.usda.gov/programs/pmc.html>. There are five species of ash known from Arkansas: white ash (*Fraxinus americana*), green ash (*F. pennsylvanica*), blue ash (*F. quadrangulata*), Carolina ash (*F. caroliniana*), and pumpkin ash (*F. profunda*). All are threatened. Please help in this effort if you can.*

LAKE WAPPAPELLO, MO—State and federal officials are working overtime to determine the extent of an emerald ash borer infestation at Lake Wappapello and develop a strategy for containing the problem.

The infestation came to light July 23 when U.S. Department of Agriculture (USDA) scientists discovered seven suspicious beetles on traps at the U.S. Army Corps of Engineers' Greenville Recreation Area in Wayne County. Officials with the USDA confirmed the identity of the insects Friday.

Collin Wamsley, state entomologist with the Missouri Department of Agriculture, said his agency and the Missouri departments of Conservation and Natural Resources are prepared to deal with the infestation. Before proceeding, however, both state and federal agencies need to determine the its extent.

"Although it is a disappointment to find the early detection of the emerald ash borer, it is not a surprise," said Wamsley. "We have been preparing for an event like this for some time. Right now, we are doing what we can to determine the location of the emerald ash borer. We hope to have that information soon and begin the next steps in battling this pest."

Wamsley said the first steps that will be taken include conducting visual searches for emerald ash borers and placing more traps around the initial detection site. This is under way. The results of these surveys will dictate further actions.

The emerald ash borer is a small, metallic green beetle native to Asia. Its larvae burrow into the bark of ash trees, causing trees to starve and die. While the emerald ash borer does not pose any direct risk to public health, it does threaten Missouri's ash tree

populations. Ash trees make up approximately 3 percent of forests and 14 percent of urban trees in Missouri. Since no ash trees in North America are known to be resistant to the pest, infestations are devastating to these tree species.

Missouri is the ninth state to have a confirmed emerald ash borer infestation. The pest was first found in Michigan in 2002. Since that time, seven other states (Ohio, Indiana, Illinois, Maryland, Pennsylvania, West Virginia and Virginia) have confirmed infestations. Missouri is the farthest south and west of any other known emerald ash borer infestation.

The emerald ash borer trapping effort that revealed the infestation is part of a monitoring program started in 2004. It is Missouri's contribution to a nation-wide early detection effort coordinated by USDA in partnership with the Missouri departments of Agriculture, Conservation and Natural Resources and the University of Missouri.

Emerald ash borer traps are purple, prism-shaped devices with sticky outer surfaces. The borers are attracted by the color and by chemical scents that mimic a stressed ash tree. Insects that land on the traps are stuck and can be identified by periodic checking. So far, emerald ash borers have not shown up on any other traps throughout the state.

Although adult emerald ash borers are strong fliers, they are less likely to travel long distances when plenty of host trees are available nearby. However, they can move long distances on firewood and nursery stock. State officials urge Missourians not to transport firewood from one site to another. Instead, they suggest that campers buy firewood locally.

"The discovery of this highly destructive pest at a campground is a strong indication that it probably arrived in firewood," said Conservation Department Forest Entomologist Rob Lawrence. "If people knew how devastating this insect can be, they would never consider bringing firewood from out of state."



Emerald ash borers are small, green wood-boring insects that leave "D"-shaped holes in the bark of ash trees. If you suspect you have located an infestation in Arkansas, contact Paul Shell at the State Plant Board at 501.225.1598.



Photos courtesy USDA Forest Service and Bugwood Network.

Upcoming Field Trips and Events

SEPTEMBER 20th – CHESNEY PRAIRIE NATURAL

AREA. Join prairie guru Joe Woolbright for a day of botanizing (and birding) on the largest tallgrass prairie remnant in northwest Arkansas (near Siloam Springs). The Arkansas Natural Heritage Commission has just added 22 acres of high-quality mesic prairie to the natural area, making it more than 80 acres. See the two-acre sod transplant and look for rarities like downy gentian and white-flowered goldenrod in the prairie. Meet at Chesney Prairie Natural Area at 10:00 AM. Directions can be found at www.naturalheritage.org. Call Joe at 479.427.4277 if you have any questions.

SEPTEMBER 27th – GARNER HOMESTEAD (GARLAND COUNTY).

Join Susie Teague for a field trip to the botanically rich Garner Homestead, located on Highway 128. This property was homesteaded by Susie's Great Grandparents during the mid 1800's and still belongs to members of her family. Mill Creek runs through the property and there is an area of old growth forest. See plants such as the rare false hellebore, wild ginger, starry campion, large lobelia, ashy sunflower, and many others. The field trip will begin at 9:00 AM. contact Susie for directions and to reserve a spot. Email: cedarcreeks@sbcglobal.net or Phone: 501.262.9695 or Cell: 501.282.7475.

SEPTEMBER 27th – MOUNT MAGAZINE. Join Brent Baker on an expedition on Mount Magazine, one of the most unique botanical sites in the state and the state's highest peak. Exact trail to be determined. Plan for at least moderately difficult trails and pack a lunch. To sign up or for more information call Brent at 479.970.9143 or email btb2001@hotmail.com.

OCTOBER 4th and 5th—ARKANSAS AUDUBON ADULT ECOLOGY CAMPS at Ferncliff Conference Center in west Little Rock. Workshops run from 10 a.m. Saturday to 4 p.m. Sunday. Accommodations are available at Ferncliff for out-of-townners. The workshop on edible plants is full, but there are still a few slots left for the following workshops: 1) **Mushrooms and other fungi: how to identify, collect, cook, and avoid.** Jay Justice, longtime President of the Arkansas Mycological Society, instructor. 2) **Trees of Arkansas: learn to identify (and appreciate) our native trees.** Eric Sundell, instructor. Interested? Check it out at www.arbirds.org. And save the date.

OCTOBER 11th – PINNACLE MOUNTAIN STATE PARK.

Join Eric Sundell for a 2-3 hour hike on the Pinnacle Mountain Base Trail in Pinnacle Mountain State Park just west of Little Rock. Focus will be on woody plants and fall composites. Meet at 1:00 PM at the West Summit Trail/Base Trail trailhead (the one at the base of the mountain accessed off Hwy 300, across the parking lot from the Kingfisher Trail. If you have questions call Eric at 870.723.1089.

OCTOBER 24th-26th – ANPS FALL MEETING. Join us in Mammoth Spring for our fall meeting, annual plant auction, and

field trips. Details on pages 11 and 12 in this issue.

OCTOBER 31st-NOVEMBER 2nd – OZARK CHAPTER MEETING. Contact Burnetta Hinterthuer for details. Email: bhintert@nwacc.edu, phone: 479.582.0317.

NOVEMBER 1st – ALLSOPP PARK. Eric Sundell will lead a hike into the depths of Allsopp Park, one of Little Rock's oldest and more botanically interesting city parks. See an interesting mix of native woodland species and invasive plants, some quite uncommon in the state. Meet at the west end of the Allsopp Park Promenade on Kavanaugh Blvd. at 1:00 PM. If you have questions call Eric at 870.723.1089.

FIELD TRIPS NEEDED—As always, we need people to lead field trips to interesting areas. We know you have sites you want to take people to. Please contact the editor if you are willing to lead a trip in your area.

TALKING PLANTS WITH A FOUR YEAR OLD

By Theo (and Annaleah) Witsell

Kids are pretty funny. Annaleah, my four year old daughter, sometimes helps me collect, press, and process dried plant specimens for work. We play a little game while she helps me sort specimens where I tell her little facts about each species and ask her to repeat after me the family or scientific name of each species. These names can be a real mouthful even for me and we both have a lot of fun with it. I'll say the name and she'll "repeat" it back, semi-phonetically, using a strung-together series of words that she knows. This can be hilarious, especially if she is in the right mood, and is great fun for both of us. I wrote down some highlights from a recent round as she said them so I wouldn't forget them like I usually do:

Me: "Annaleah, this is an Ozark gourd. A long time ago these were grown by Native Americans and they still grow on gravel bars along the mountain rivers. The family is the Cucurbitaceae. Can you say Cucurbitaceae?"

Annaleah: "That's easy Daddy. Cucumber taste a bee!"

Me: "Great! Look at this beard-tongue. It smells like dirty feet."

Annaleah: (giggling) “Huh? Dirty feet?!!! Let me smell... YUCK!”

Me: “Yep, and it’s in the figwort family – the Scrophulariaceae.”

Annaleah: “Cough drop berry office knee!”

Me: “Ha! That’s fantastic... What about this tree-of-heaven? If you break the leaf stalk it smells like peanut butter and it will grow out of a crack in the sidewalk. Its family is the Simaroubaceae.”

Annaleah: “Huuuhhhh??? Simmer blue basement see?”

Me: (laughing hysterically) “Yes! Alright! And check this out... this one lives in the water and it eats bugs.”

Annaleah: (visibly skeptical) “Nuh-uuuhhh... plants don’t eat bugs!”

Me: “This one does. No kidding. It catches them down in these little things here. It’s a bladderwort, in the Lentibulariaceae.”

Annaleah: (giggling) “Limp very hairy fairy tree!”

Me: (almost crying now I’m laughing so hard) “O.k. O.k. Here’s a log fern. It grows in special kinds of wetlands called seeps. The family is the Dryopteridaceae.”

Annaleah: “Dew drop Terry daisy E!”

Me: (laughing) “Pretty much! Good job. Now how about this quillwort? It’s sort of like a fern but lives in the water and makes little spores down here in the base. It has its own family, the Isoetaceae.”

Annaleah: “I saw a tasty bee!”

Me: “You’re funny. Now, come look at the flowers on this Dutchman’s pipe.”

Annaleah: (betrayed by her attention span) “No!”

Me: “Aw c’mon! Please?”

Annaleah: (running off) “I don’t even LIKE plants!!!”



Goat's beard (Aruncus dioicus). Photo by Craig Fraiser.

Arkansas Native Plant Society Membership Application

Please check the appropriate box below.

Membership Categories:

- ☐ \$10..... Student
- ☐ \$15..... Regular
- ☐ \$20..... Supporting
- ☐ \$25..... Family Membership
- ☐ \$30..... Contributing
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The purpose of the Arkansas Native Plant Society is to promote the preservation, conservation, and study of the wild plants and vegetation of Arkansas, the education of the public to the value of the native flora and its habitat, and the publication of related information.



CLAYTONIA

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**Newsletter of the Arkansas Native Plant Society— Fall/ Winter 2008
AVAILABLE ONLINE IN FULL COLOR AT www.anps.org**